Cisco Media Gateway Controller Software Release 9 Billing Interface Guide

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CONTENTS

Preface

This preface includes the following sections:

Document Objective

This guide provides reference information for the Cisco Media Gateway Controller (MGC) software Release 9. You should read the system-level documentation supplied with your system before using this guide. A complete list of these documents is included in the *Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide* that ships with your system.

Note This guide uses the term *Media Gateway Controller software* or *MGC application* to mean the Cisco MGC software that runs in the UNIX environment on a server. The term *MGC* refers to the combination of this software and the server. The MGC communicates with the SS7 network to process and route calls between a traditional time-division multiplexing (TDM) network and a packet data network. This routing takes place through a variety of media gateways (MGWs), which are separate devices that perform the conversion between the TDM and data network formats.

Audience

This guide is for network operators and administrators who have experience with telecommunications networks, protocols, and equipment and who have familiarity with data communications networks, protocols, and equipment.

Document Organization

The major sections of this guide are summarized in Table 1.

Table 1 Document Organization

Chapter	Title	Description
1	Billing Interfaces	Describes the Cisco MGC billing interface capabilities and its call detail records (CDRs).
2	Info Field Reference	Provides additional information about the MGC Info Field (Tag 4031).
Appendix A	CDE Listings by Release	Lists the call detail element (CDE) changes made for each release.

Document Conventions

Throughout this guide, $BASEDIR refers to the directory structure in which the Cisco MGC software is installed. $BASEDIR is a UNIX environment variable that must be set during installation. Refer to the *Cisco MGC Software Release 9 Installation and Configuration Guide* for a description of configuring this environment variable.

Text conventions used in this guide are shown in Table 2.

Table 2 Conventions

Convention	Meaning	Description/Comments
Boldface	Commands and keywords you enter as shown	**offset-list**
Italics	Variables for which you supply values	**command** *type interface* You replace the variable with the type of interface. In contexts that do not allow italics, such as online help, arguments are enclosed in angle brackets (< >).
Square brackets ([ ])	Optional elements	**command** [abc] abc is optional (not required), but you can choose it.
Vertical bars (|)	Separated alternative elements	**command** [abc | def] You can choose either abc or def, or neither, but not both.
Braces ({ })	Required choices	**command** {abc | def} You **must** choose either abc **or** def, but not both.

Table 2 Conventions (continued)

Convention	Meaning	Description/Comments
Braces and vertical bars within square brackets ([{ | }])	A required choice within an optional element	**command** [abc {def | ghi}] You have three options: Nothing abc def abc ghi
Caret character (^)	Control key	The key combinations ^D and Ctrl-D are equivalent: Both mean "hold down the Control key while you press the D key." Keys are indicated in capital letters, but are not case sensitive.
A nonquoted set of characters	A string	For example, when setting an SNMP community string to *public*, do not use quotation marks around the string; otherwise, the string will include the quotation marks.
`System prompts`	Denotes interactive sessions, indicates that the user enters commands at the prompt	The system prompt indicates the current command mode. For example, the prompt `Router (config) #` indicates global configuration mode.
`Screen` font	Terminal sessions and information the system displays	
Angle brackets (< >)	Nonprinting characters such as passwords	
Exclamation point (!) at the beginning of a line	A comment line	Comments are sometimes displayed by the Cisco IOS software.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Timesaver Means *reader may be able to save some time.* Taking the action described could achieve a result in less time than might be achieved otherwise.

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Conventions used in the Cisco MGC system (such as in MML commands) are shown in Table 3.

Table 3 Data Type Conventions

Data Type	Definition	Example

Integer	A series of decimal digits from the set of 0 through 9 that represents a positive integer. An integer can have one or more leading zero digits (0) added to the left side to align the columns. Leading zeros are always valid as long as the number of digits is less than or equal to ten. Values of this type have a range of 0 through 4294967295.	`123`
		`000123`
		`4200000000`

Signed integer	This data type has the same basic format as the integer but can be either positive or negative. When negative, it is preceded by the sign character (–). As with the integer data type, this data type can be as many as ten digits in length, not including the sign character. The value of this type has a range of –2147483647 through 2147483647.	`123`
		`–000123`
		`–21000000001`

Hexadecimal	A series of 16-based digits from the set of 0 through 9, a through f, or A through F. The hexadecimal number can have one or more leading zeros (0) added to the left side. For all hexadecimal values, the maximum size is 0xffffffff (eight hexadecimal digits).	`1f3` `01f3000`
Text	A series of alphanumeric characters from the ASCII character set, where defined. Tab, space, and double quote (“ ”) characters cannot be used. Text can be as many as 255 characters; however, it is recommended that you limit the text to no more than 32 characters for readability.	`EntityID` `LineSES_Threshold999`
String	A series of alphanumeric characters and white-space characters. A string is surrounded by double quotes (“ ”). Strings can be as many as 255 characters; however, it is recommended that you limit the strings to no more than 80 characters for readability.	`“This is a descriptive string.”`

Note Hexadecimal and integer fields in files can have different widths (number of characters) for column alignment.

Cisco Media Gateway Controller Documentation Suite

The documents that make up the Cisco MGC documentation set are listed in Table 4.

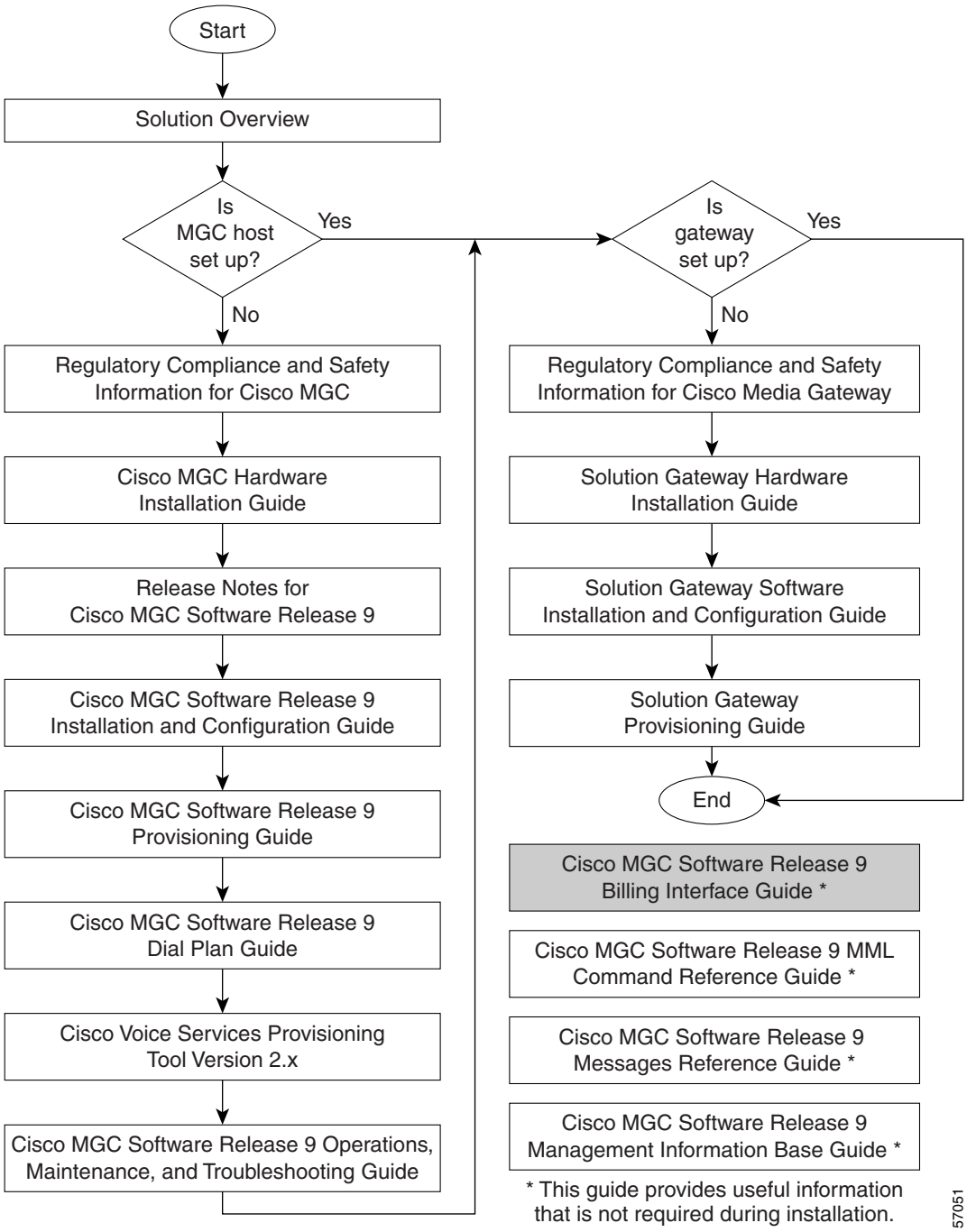
Table 4 Cisco Media Gateway Controller Documentation Set

Functional Area	Document Title	Document Description
Hardware	*Cisco Media Gateway Controller Hardware Installation Guide*	Provides information on how to install the Cisco SC2200 and Cisco VSC3000 MGCs
Hardware	*Regulatory Compliance and Safety Information for the Cisco Media Gateway Controller Hardware*	Provides regulatory compliance and safety information
Software installation and configuration	*Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide*	Provides installation and configuration information for the Cisco MGC software Release 9
Software installation and configuration	*Cisco Media Gateway Controller Software Release 9 Provisioning Guide*	Provides provisioning information for the Cisco MGC software Release 9
Software installation and configuration	*Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*	Provides dial plan information for the Cisco MGC software Release 9
Software installation and configuration	*Cisco Media Gateway Controller Software Release 9 Billing Interface Guide (this book)*	Provides reference information for the Cisco MGC software Release 9
Software installation and configuration	*Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide*	Provides operation, maintenance, and troubleshooting information for the Cisco MGC software Release 9
Software installation and configuration	*Release Notes for Cisco Media Gateway Controller Software Release 9*	Provides release-specific information for the Cisco MGC software Release 9

Cisco Media Gateway Controller Documentation Map

Refer to the map in Figure 1 to navigate through the media gateway controller documentation suite.

Figure 1 Documentation Map



Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Summary History of Document Changes

Table 5 describes the document changes made after the initial release of the *Cisco Media Gateway Controller Software Release 9 Billing Interface Guide*.

Table 5 Summary History of Document Changes

Subject	Document Number and Change Date	Change Summary
Tag revisioins	OL-1089-11, December, 2007	• Updated tags in Release 9.6, 9.7
Tag revisions	OL-1089-11, October, 2007	• Added tags 4246, 4247, and 4248
Tag revisions	OL-1089-11, April 9, 2007	• Modified information for tags 4201 and 4202. • Added tags 4236, 4238, 4239, 4240, 4242, 4243, 4244, and 4245.
Tag revisions	OL-1089-10, March 31, 2006	• Modified information for tags 4098 and 4099 for the Support for DSP Voice Quality Statistics feature. • Modified information for tags 4078, 4080, and 6000.
Tag revisions	OL-1089-10, August 5, 2005	• Modified information for tags 4011, 4049, 4050, 4087, 4088, 4215, 4221, and 4223–4225. • Added tags 2018-2020, 3018-3020, 4227-4233, and 4237. • Modified definitions for CDBs 1070 and 1071. • Added CDBs 1210 and 1260
Tag revisions	OL-1089-09, September 23, 2004	• Added the 1071 CDB. • Added tags 4234 and 4235. • Removed CDB information from individual tag tables.

Table 5 Summary History of Document Changes

Subject	Document Number and Change Date	Change Summary
Tag revisions	OL-1089-09, May 17, 2004	• Modified the description of the 1060 CDB. • Retired tag 4045. • Modified information for tags 4044 and 4073. • Added tags 4083–4097, 4213–4226, and 6005.
Tag revisions	OL-1089-08, January 9, 2004	• Restored tags 4046 and 4047.
Tag revisions	OL-1089-08, December 3, 2003	• Modified the description of the 1060 CDB. • Reordered the tags, placing them in numeric order. • Modified the retirement information for tag 3004. • Modified release information for tags 4052 and 4053. They are now listed as “defined for future use.” • Added tags 4098 and 4099, which are part of a Release 9.4(1) patch.
Tag revisions	OL-1089-08, August 18, 2003	• Added tags 4204–4212. • Retired tag 4033.
Tag revisions	OL-1089-07, June 30, 2003	• Added data value information for tags 4030 and 4044. • Modified the release in which the 3004 tag was retired.

Table 5 Summary History of Document Changes

Subject	Document Number and Change Date	Change Summary
Tag revisions	OL-1089-07, June 27, 2003	• Modified CDB information for tag 4081. • Modified descriptions for the following tags: – 2006, 2009, 2010, and 2014 – 2017, 3001, 3002, and 3006 – 3009, 3010, 4048, and 4060 • Modified data values for the following tags: – 2011, 2012, 2014, and 2016 – 4013 and 4038—4040 – 4066—4068 and 4070—4072 – 4074—4077, 6000, and 6004 • Modified information and data values for tags 6100—6104.
Tag revisions	OL-1089-07, March 14, 2003	• Modified information for tags 2005, 2007, 3007, and 4014. • Added tags 4034–4037, 4068, and 4072 to the 1110 CBD.
Tag revisions	OL-1089-07, January 20, 2003	• Corrected the octet length information for tags 3011, 3012, 4032, and 4033. • Added an appendix that identifies the CDR changes by release.
Tag revisions	OL-1089-07, December 9, 2002	• Updated the information for tag 3013. • Changed the CDB information for tag 4081.
Tag revisions	OL-1089-06, October 9, 2002	• Added CDE and CDB information for tag 4082. • Expanded data value content of the 3008 tag to include detailed cause code information.
Tag revisions	OL-1089-06, September 19, 2002	• Corrected data value information for tags 4032 and 4033.
Tag revision	OL-1089-06, September 5, 2002	• Corrected the data value information for tag 4048.
Tag revisions	OL-1089-06, August 20, 2002	• Corrected CDB information for tags 3001, 4078, 4079, and 4080.

Table 5 Summary History of Document Changes

Subject	Document Number and Change Date	Change Summary
Tag revisions	OL-1089-06, August 16, 2002	• Added data value information to the 3000 series tags from Q.763. • Identified tags 3002, 3004, 4046, and 4047 as retired. • Corrected the CBD information for tags 4052 and 4053. • Corrected descriptions for tags 4066–4068, 4070–4072, and 4074–4076. • Modified the data value information for the 4100 series tags to indicate Cisco MGC time. • Modified the data value information for ANSI Nature of Address tags to indicate that the first value is spare. • Modified tags to indicate that the maximum ANSI number is 2^{14}.
Tag revisions	OL-1089-06, July 10, 2002	• Updated CDB values for tags 4078, 4079, and 4081. • Updated CDB values for tags 4077 and 4080.
New template	OL-1089-06, July 1, 2002	• Updated this document with the current user documentation template.
Tag revisions	OL-1089-06, July 1, 2002	• Removed Tag 5000 from the listings for CDBs 1090 and 1100. • Replaced Tag 6001 in CDB 1100 with Tag 6002. • Added MGCP as a valid interface in Tags 4069 and 4073.
Tag revisions	OL-1089-06, May 15, 2002	• Added Tags 4078 through 4081.
Revised Table 1-2	OL-1089-05, April 3, 2002	• Removed references to Tags 4064 and 4065.
Tag revisions	OL-1089-04, March 22, 2002	• Revised data value and general information for Tags 4034 through 4037.

Table 5 Summary History of Document Changes

Subject	Document Number and Change Date	Change Summary
Tag revisions	OL-1089-03, November 27, 2001	• Revised text for last bullet on page 1-7 and on page 1-8. • Removed "(retired in Release 9.0(1))" for Tag 2017 and Tag 3017. • Added Tag 4203. • Removed Tag 4064 and Tag 4065.
ASCII output	OL-1089-02, November 16, 2001	• Removed references to ASCII output on page 1-2 to page 1-4. • Removed Table 1-1 on page 1-11. • Removed CdrDmpr.callDetail row in Table 1-6 on page 1-11. • Removed Trigger Interface section on page 1-18.
—	OL-1089-01, October 18, 2001	Initial release

CHAPTER 1

Billing Interfaces

This chapter describes the Cisco Media Gateway Controller (MGC) billing interface capabilities and its call detail records (CDRs). This chapter is primarily a reference that contains the following sections:

Billing Capabilities Overview

The generic interface to the CDR dumper interface carries all the billing information in the form of call detail blocks (CDBs). When the CDR dumper receives the CDB, it writes the record in the CDR file.

CDB generation is based on a point in call (PIC). The MGC predefines several PICs that can trigger the generation of CDBs. Examples of PICs include Answered, Long Duration, and Released. For example, the MGC triggers the generation of the Answered CDB when an Answer message (ANM for SS7) is received.

Each CDB has a type associated with it that distinguishes the PIC.

CDB required events that are triggered are passed to the CDR manager module. When an event is received, the action the CDR manager module takes is determined by its configuration. The CDR manager module either handles or ignores the event.

System Interfaces

System interfaces vary according to the configuration. The configuration can be either dual MGC (hot-standby) or standalone. The physical interface is described in the following section.

Physical Interface

The physical interface between the MGC and the mediation software (for example, Billing and Measurements Server (BAMS)) relies on guaranteed delivery of the CDB information between both MGCs. The interface consists of dual Ethernet links. Each link is physically isolated for redundancy.

RADIUS Interface

The RADIUS Enhancement for Accounting feature provides RADIUS interface support on the PGW 2200 for CDR data. For more information about the feature, including new CDRs, refer to the *RADIUS Enhancement for Accounting* feature guide.

Message Interface

The CDB message interface is a one-way interface to the CDR dumper. The following paragraphs describe the CDR message format for messages sent to the CDR dumper. The CDR dumper saves the CDB message into the CDR files without any conversion or data manipulation.

CDBs are written to disk in a binary, tag-length-value (TLV) format. Many mediation systems depend on input data that is preformatted in an ASCII format. An optional BAMS converts the MGC CDR billing output files to ASCII.

The accuracy selection for timepoints is configurable on the MGC as seconds or milliseconds. In order for the ASCII representation of timepoints to be properly displayed, a place holder for each type has been provided in the ASCII output layout. For each timepoint type, two entries are contained in the output format, one entry for seconds granularity and another entry for milliseconds granularity.

A downstream mediation or billing system (for example, BAMS) can easily parse these ASCII records. Each record is prefixed in the ASCII file with a record identifier field, for example a 1110 record would begin as follows: 1110,1234,5678,2222,...

The ASCII files are named with the same prefix name specified (refer to page 1-20 for a prefix example), and postfixed with ".csv" rather than ".bin". Each file resides in the /opt/CiscoMGC/var/bam directory.

Note It is the system operator's responsibility to manage files created by the MGC billing process, including archiving and deleting files from the system.

CDB Message Format

The format of CDB messages being sent to the CDR dumper is based on tag, length, and value (TLV). Each field within the CDB message has a tag, length, and value.

Figure 1-1 shows how the CDB record itself is also in TLV format with the value part composed of multiple sub-TLVs. For performance reasons the first few fields(tags) of the value portion of the CDB exists in a fixed order for every message. These fields are the Unique Call ID (tag 5000), CDB Version (tag 4000), and CDB Timepoint (tag 4001).

Note These three fields are fixed so that the CDR dumper can have direct access to these fields without having to parse or search through all the CDB message TLV fields.

As shown in Figure 1-1, the first tag in the CDB record identifies the CDB message type. The length indicates the length of the entire message, excluding 4 bytes (2 bytes for the message tag and 2 bytes for the length).

Figure 1-1 CDB TLV Record Format

The CDB message has both mandatory fields and optional fields. The following fields are mandatory in each CDB message.

- Unique Call ID
- Version
- CDB Timestamp

All other fields in the CDB message are considered optional. The optional fields do not appear in any sort of predefined order. The TLV format allows the application to be insensitive to the order of the message data. For example, in a 1010 Answer CDB message, the Call Reference ID tag (4002) could appear as the first optional field, whereas in another CDB message, such as 1040 Release, the Call Reference ID tag could appear as the last optional field.

Note The mandatory fields exist in each CDB message, with their associated values and locations. The optional fields can have no value. Optional fields with no value are not included in the CDB message, to improve performance.

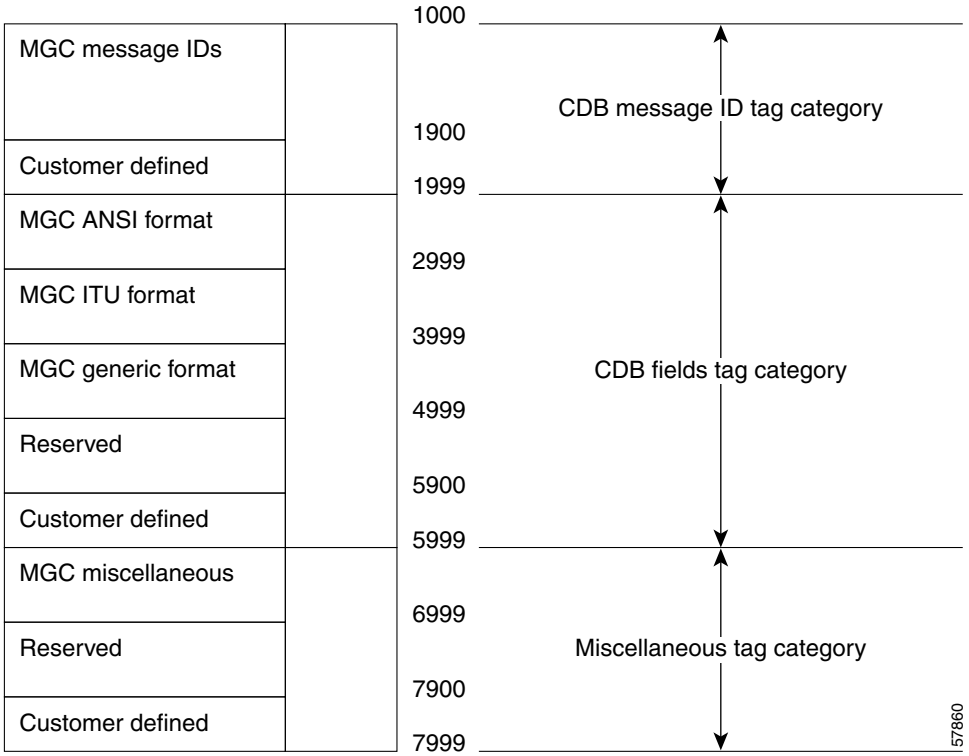
Tag Values

As shown in Figure 1-2, the tags are divided into categories. The first tag category is assigned to the CDB message ID(s), the second category is assigned to CDB format fields, and the third category is assigned to miscellaneous usage.

Each category is divided into two or more sections. One section is the MGC range, and another section is the customer-defined range. Customer-defined ranges (for each category) can be used to further process the CDB records as required by the customer.

For example, in Figure 1-2, a Cisco MGC message ID range defined by a customer (1900 through 1999) can be used for generating customer-specific CDB auditing records. The auditing records can be for beginning and ending the CDR file. The field tag range can also use the customer-defined range for the field category (5900 through 5999) to define new fields in the CDB auditing records.

Figure 1-2 CDB Tag Categories



Formats and Codes

The CDB message tag and the length fields are binary encoded using big-endian (BE). The tag field holds the value to identify the CDB field, and the length field holds the number of octets (length) of the CDB field.

Note The length indicator value does not include the field tag octets (2 octets) or the length indicator octets (2 octets).

The CDB field value is encoded as specified BE, International Alphabet No. 5 (IA5), ANSI T1.113, or ITU Q.763).

CDB Record Types

This section describes different types of CDBs and their relation to PIC events. Creation of the CDB is based on certain PIC events (refer to Table 1-1), and other call events.

Table 1-1 CDB Types

Point in Call Event	Description	CDB Tag Value	CDB Message/Record
Answer call event	Call went through and was answered.	1010	Set CDB record
Deselected outgoing circuit event	Circuit cannot be used, passed to another.	1020	Deselected outgoing circuit CDB record
Aborted attempt call event	Call did not get to setup status.	1030	Aborted attempt CDB record
Release call event	Released call.	1040	Release CDB record
Interrupted call event	Call terminating without release message.	1050	Interrupted CDB record
On-going call event	Long call.	1060	On-going call CDB record
Maintenance CDB record	Circuit maintenance.	1070	Maintenance CDB record
N/A	Sent as a result of a Cisco MGC audit or a change in circuit counts via the **sta-aud-cic** MML command.	1071	SS7 CIC Audit CDB record
External access CDB	Call sent a query to a Service Control Point (SCP) (or to another external device or database).	1080	External access CDB record
File header CDB	CDR dumper creates the file header CDB at the beginning of each CDR file.	1090	File header CDB record
File footer CDB	CDR dumper creates the file footer CDB at the end of each CDR file.	1100	File footer CDB record
End of a call CDB	This CDB is generated when the MGC is configured to have one CDB per call. It is generated at the end of the call (as in Release CDB) or when the call did not get to setup status (as in Aborted attempt CDB). **Note** If the Cisco MGC is configured for 1110 output, the 1010, 1030, and 1040 CDBs must *not* be configured for inclusion in the output billing files.	1110	End of a Call CDB
Half call slave release event CDB	Refer to the 1110 CDB definition and apply to a non-controlling slave half call instance.	1210	Slave End of a Call CDB
Half call slave ongoing call event CDB	Refer to th 1060 CDB definition and apply to a non-controlling slave half call instance.	1260	Slave Long Duration Call CDB

Call Data Block Descriptions

The CDB consists of several call data elements (CDEs) that are related to a certain point in call (PIC). Each CDE has a tag, a length, and a value. Table 1-2 defines the CDE fields in a CDB.

Table 1-2 CDB Call Data Element Fields for Current Release

CDB Name	CDB Tag	CDE Tag Numbers				
		Common	Millisecond Granularity	ANSI	ITU	Miscellaneous/ Protocol Specific
Answered	1010	4000–4005, 4008–4016, 4029, 4034–4043, 4048, 4060, 4063, 4066–4073, 4080, 4081, 4083–4086, 4089, 4090, 4092–4096, 4201–4207, 4209–4212, 4236, 4237, 4240–4243, 5000	4100–4105	2000, 2001, 2003–2007, 2009–2020	3000, 3001, 3003, 3005–3007, 3009–3013, 3017–3020	6100–6104
Deselected	1020	4000–4003, 4006, 4008, 4009, 4015, 4016, 4019, 4020, 4028, 4034–4037, 4081, 4232, 4233, 5000	4100, 4101, 4106, 4108, 4109	2008–2012	3008–3012	6100–6104
Aborted	1030	4000–4004, 4006, 4008–4016, 4019, 4020, 4028, 4029, 4034–4039, 4046–4048, 4060–4062, 4065–4073, 4078–4080, 4082–4096, 4098, 4099, 4201–4212, 4232, 4233, 4236, 4237, 4239, 4240–4245, 4246, 5000	4100–4103, 4106–4109,	2000, 2001, 2003–2009, 2011–2020	3000, 3001, 3003, 3005–3009, 3011, 3013, 3017–3020	6100–6104
Release	1040	4000–4002, 4006, 4019, 4020, 4028, 4030, 4044, 4046, 4047, 4061, 4062, 4078, 4079, 4082–4091, 4095–4099, 4205–4210, 4213, 4214, 4227–4231, 4239, 4240, 4241, 5000	4106–4109,	2008	3008	
Interrupted	1050	4000–4002, 4007, 4081, 5000				
Ongoing	1060	4000–4005, 4008–4010, 4012, 4014–4016, 4066–4073, 4080, 4081, 4213, 4214, 4237, 5000	4100–4105,	2018–2020	3017–3020	
Maintenance	1070	4000–4002, 4017, 4018, 4032, 4074–4077, 4081, 5000				
SS7 CIC Audit	1071	4000–4002, 4017, 4074, 4081, 5000				
External DB	1080	4000–4002, 4040– 4043, 4234, 4235, 5000				
File Header CDB	1090	4000–4002				6000, 6001, 6004

Table 1-2 CDB Call Data Element Fields for Current Release (continued)

CDB Name	CDB Tag	CDE Tag Numbers				
		Common	Millisecond Granularity	ANSI	ITU	Miscellaneous/ Protocol Specific
File Footer CDB	1100	4000–4002				6000, 6002, 6003, 6004
End of Call	1110	4000–4002, 4008–4012, 4014–4016, 4028, 4034–4037, 4046, 4047, 4060–4063, 4065, 4068, 4072, 4078–4080, 4082–4099, 4201–4212, 4213, 4214, 4227–4231, 4232, 4233, 4236, 4237, 4239, 4240–4245, 4246, 5000	4100–4109,	2000–2005, 2007, 2008, 2013, 2015, 2017–2020	3000, 3001, 3003, 3005, 3007, 3008, 3017–3020	
Slave End of Call	1210	4002, 4003, 4006, 4008, 4009, 4015, 4016, 4227, 4228, 5000				
Slave Long Duration Call	1260	4002, 4003, 4006, 4008, 4009, 4015, 4016, 4227, 4228, 5000				

Enabling Call Screening

To initialize the database that stores call screening information, modify the SysConnectDataAccess parameter in the Engine section of the XECfgParm.dat file: For parameter modification, enter `SysConnectDataAccess`.

Note Making changes to the XECfgParm.dat file requires the system software to be stopped, the parameter value changed, and the software restarted. Contact Cisco TAC before stopping the system software.

To enable or disable the A-number and B-number analysis in the call screening database, enter one of the following values:

- If you do not have the database environment set with all the required data populated, set this value to **false** (default).
- If you have the database and want the system to access it, set this value to **true**.

Configuring Call Detail Record File Output

To configure the CDR file output, modify the following parameters in the Data Dumper and Engine sections of the XECfgParm.dat file:

Parameter modification: engine.CDRencodingFormat

To specify the CDR file encoding format, enter one of the following values:

- **AnsiCDB-North American** (default)
- **ItuCDB**-European

Parameter modification: engine.CDRtimeStamp

To specify the CDR file timestamp unit, enter one of the following values:

- **S**-Seconds (default).
- **M**-Milliseconds; use this parameter if your configuration uses TCAP.

Note If you use 1110 in the engine.CDRmessageTypes parameter (for TCAP), you must specify milliseconds for the CDRtimeStamp value.

Note The timestamp value is in Coordinated Universal Time (UTC). Previously the term used was Greenwich Mean Time (GMT).

Configuring Call Detail Record Message Types

Parameter modification: engine.CDRmessageTypes

To specify which CDBs (statistics taken at various points in a call) are recorded during a call, enter one of the two following sets of values (each number represents a point in a call):

- **1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080**—Use this set of values if your CDR files are used by a measurement server or by another CDR reader.
- **1060, 1110**—Use this set of values if the end-of-call record is desired.
- **1071**—Use this set of values for BAMS measurements.

Enabling Call Screening

To initialize the database that stores call screening information, modify the parameters shown in Table 1-3.

Table 1-3 Call Screening Parameters

Parameter	Modification
engine.SysConnectDataAccess	To enable or disable the A-number and B-number analysis in the call screening database, enter one of the following values: • If you do not have the database environment set with all the required data populated, set this value to **false** (default). • If you have the database and want the system to access it, set this value to **true**.

Configuring Call Detail Record File Output

To configure the CDR file output, modify the parameters shown in Table 1-4 in the Data Dumper and Engine sections of the XECfgParm.dat file:

Table 1-4 Call Detail Record File Output Parameters

Parameter	Modification
engine.CDRencodingFormat	To specify the call detail record (CDR) file encoding format, enter one of the following values: • **AnsiCDB**—North American (default) • **ItuCDB**—European
engine.CDRmessageTypes	To specify which call detail blocks (CDBs, statistics taken at various points in a call) are recorded during a call, enter one of the two following sets of values (each number represents a point in a call): • **1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080**—Use this set of values if your CDR files are to be read by a measurement server or other CDR reader. • **1060, 1110**—Use this set of values if the end-of-call record is desired. • **1071**—Use this set of values for BAMS measurements.
engine.CDRtimeStamp	To specify the CDR file time-stamp unit, enter one of the following values: • **S**—Seconds (default). • **M**—Milliseconds; use this parameter if your configuration uses TCAP or BAMS. **Note** If you use are using BAMS or **1110 in the engine.CDRmessageTypes parameter (for TCAP),** you *must* specify milliseconds (**M**) for the **CDRtimeStamp** value.
cdrDmpr.openCDR	To indicate whether the standard data dumper writes out CDR files, enter one of the following values: • **true**—Standard data dumper opens a CDR file and logs call detail blocks (CDBs). • **false**—Standard data dumper does not open a CDR file and does not log CDBs.
cdrDmpr.seqFile	Indicate the location of the file for storing or retrieving the CDR sequence number (range is 1 to 999999). Default: **../var/.cdr.seq**

Call Data Element Descriptions

This section describes the current CDB CDEs. The CDEs are divided into three tables (ANSI, ITU, and generic format).

The ANSI formatted fields are used for customers requesting ANSI-formatted fields (as is the case for North American customers) and is based on ANSI T1.113.1995.

The ITU formatted fields are used for customers requesting ITU-formatted-fields (as is the case for European customers) and is based on ITU-Q.763.

The generic format provides common CDEs with one encoding scheme. The generic format is used to handle different protocol variants.

Table 1-5 defines all the fields that can exist in any given CDB along with the associated tag and type for each one.

Table 1-5 CDE Detail Description for the Current Release

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
ANSI Based Formatted Fields											
Calling Party Category	2000	Y	N	Y	N	N	N	N	N	Y	N
User Service Information	2001	Y	N	Y	N	N	N	N	N	Y	N
Originating Line Information	2002	Y	N	Y	N	N	N	N	N	N	N
Calling Number Nature of Address	2003	Y	N	Y	N	N	N	N	N	Y	N
Charged Number Nature of Address	2004	Y	N	Y	N	N	N	N	N	Y	N
Dialed Number Nature of Address	2005	Y	N	Y	N	N	N	N	N	Y	N
LRN Nature of Address	2006	Y	N	Y	N	N	N	N	N	N	N
Called Number Nature of Address	2007	Y	N	Y	N	N	N	N	N	Y	N
Reason Code	2008	N	Y	Y	Y	N	N	N	N	Y	N
Forward Call Indicators Received	2009	Y	Y	Y	N	N	N	N	N	N	N
Forward Call Indicators Sent	2010	Y	Y	N	N	N	N	N	N	N	N
Nature of Connection Indicators Received	2011	Y	Y	Y	N	N	N	N	N	N	N
Nature of Connection Indicators Sent	2012	Y	Y	Y	N	N	N	N	N	N	N
Transit Network Selection	2013	Y	N	Y	N	N	N	N	N	Y	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maint-enance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Carrier Identification Parameter	2014	Y	N	Y	N	N	N	N	N	N	N
Carrier Selection Parameter	2015	Y	N	Y	N	N	N	N	N	Y	N
Jurisdiction Information Parameter	2016	Y	N	Y	N	N	N	N	N	N	N
Redirecting Number NOA	2017	Y	N	Y	N	N	N	N	N	Y	N
Egress Calling Number NOA	2018	Y	N	Y	N	N	Y	N	N	Y	N
Egress Redirecting Number NOA	2019	Y	N	Y	N	N	Y	N	N	Y	N
Egress Original Called Number NOA	2020	Y	N	Y	N	N	Y	N	N	Y	N
ITU Based Formatted Fields											
Calling Party Category	3000	Y	N	Y	N	N	N	N	N	Y	N
User Service Information	3001	Y	N	Y	N	N	N	N	N	Y	N
Calling Number Nature of Address	3003	Y	N	Y	N	N	N	N	N	Y	N
Dialed Number Nature of Address	3005	Y	N	Y	N	N	N	N	N	Y	N
LRN Nature of Address	3006	Y	N	Y	N	N	N	N	N	N	N
Called Number Nature of Address	3007	Y	N	Y	N	N	N	N	N	Y	N
Reason Code	3008	N	Y	Y	Y	N	N	N	N	Y	N
Forward Call Indicators Received	3009	Y	Y	Y	N	N	N	N	N	N	N
Forward Call Indicators Sent	3010	Y	Y	N	N	N	N	N	N	N	N
Nature of Connection Indicators Received	3011	Y	Y	Y	N	N	N	N	N	N	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Nature of Connection Indicators Sent	3012	Y	Y	N	N	N	N	N	N	N	N
Transit Network Selection	3013	Y	N	Y	N	N	N	N	N	N	N
Redirecting Number NOA	3017	Y	N	Y	N	N	N	N	N	Y	N
Egress Calling Number NOA	3018	Y	N	Y	N	N	Y	N	N	Y	N
Egress Redirecting Number NOA	3019	Y	N	Y	N	N	Y	N	N	Y	N
Egress Original Called Number NOA	3020	Y	N	Y	N	N	Y	N	N	Y	N
MGC Generic Tags											
CDB Version	4000	Y	Y	Y	Y	Y	Y	Y	Y	Y	1071
CDB Timepoint	4001	Y	Y	Y	Y	Y	Y	Y	Y	Y	1071
Call Reference ID	4002	Y	Y	Y	Y	Y	Y	Y	Y	Y	1210 1260
IAM Timepoint	4003	Y	Y	Y	N	N	Y	N	N	N	1210 1260
ACM Timepoint	4004	Y	N	Y	N	N	Y	N	N	N	N
ANM Timepoint	4005	Y	N	N	N	N	Y	N	N	N	N
REL Timepoint	4006	N	Y	Y	Y	N	N	N	N	N	1210
Crash Timepoint	4007	N	N	N	N	Y	N	N	N	N	N
Originating Trunk Group	4008	Y	Y	Y	N	N	Y	N	N	Y	1210 1260
Originating Member	4009	Y	Y	Y	N	N	Y	N	N	Y	1210 1260
Calling Number	4010	Y	N	Y	N	N	Y	N	N	Y	N
Charged Number	4011	Y	N	Y	N	N	N	N	N	Y	N
Dialed Number	4012	Y	N	Y	N	N	Y	N	N	Y	N
LRN Number	4013	Y	N	Y	N	N	N	N	N	N	N
Called Number	4014	Y	N	Y	N	N	Y	N	N	Y	N
Terminating Trunk Group	4015	Y	Y	Y	N	N	Y	N	N	Y	1210 1260
Terminating Member	4016	Y	Y	Y	N	N	Y	N	N	Y	1210 1260

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maint-enance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Maint Trunk Group	4017	N	N	N	N	N	N	Y	N	N	1071
Maint Circuit Member	4018	N	N	N	N	N	N	Y	N	N	N
Glare Encountered	4019	N	Y	Y	Y	N	N	N	N	N	N
RLC Release Timepoint	4020	N	Y	Y	Y	N	N	N	N	N	N
First Release Source	4028	N	Y	Y	Y	N	N	N	N	Y	N
LNP Dip	4029	Y	N	Y	N	N	N	N	N	N	N
Total Meter Pulses	4030	N	N	N	Y	N	N	N	N	N	N
Maint Type	4032	N	N	N	N	N	N	Y	N	N	N
Maint Reason (Retired in Release 9.4(1))	4033	N	N	N	N	N	N	Y	N	N	N
Ingress Originating Point Code	4034	Y	Y	Y	N	N	N	N	N	Y (9.3 and up)	N
Ingress Destination Point Code	4035	Y	Y	Y	N	N	N	N	N	Y (9.3 and up)	N
Egress Originating Point Code	4036	Y	Y	Y	N	N	N	N	N	Y (9.3 and up)	N
Egress Destination Point Code	4037	Y	Y	Y	N	N	N	N	N	Y (9.3 and up)	N
Ingress Media Gateway ID	4038	Y	Y	Y	N	N	N	N	N	N	N
Egress Media Gateway ID	4039	Y	Y	Y	N	N	N	N	N	N	N
TCAP Transaction Identification	4040	Y	N	N	N	N	N	N	Y	N	N
Transaction Start Time	4041	Y	N	N	N	N	N	N	Y	N	N
Transaction End Time	4042	Y	N	N	N	N	N	N	Y	N	N
TCAP Database Identification	4043	Y	N	N	N	N	N	N	Y	N	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Announcement Identification	4044	N	N	N	Y	N	N	N	N	N	N
Ingress Gateway Packet Info	4046	N	N	Y	Y	N	N	N	N	Y	N
Egress Gateway Packet Info	4047	N	N	Y	Y	N	N	N	N	Y	N
Directional Flag	4048	Y	N	Y	N	N	N	N	N	N	N
Service Logic ID	4049	N	N	N	N	N	N	N	Y	N	N
AMA Line Number	4050	N	N	N	N	N	N	N	Y	N	N
Originating Gateway Primary Select	4052	N	N	N	N	N	N	N	N	N	N
Terminating Gateway Primary Select	4053	N	N	N	N	N	N	N	N	N	N
Redirecting Number	4060	Y	N	Y	N	N	N	N	N	Y	N
Tariff Rate	4061	N	N	Y	Y	N	N	N	N	Y	N
Scale Factor	4062	N	N	Y	Y	N	N	N	N	Y	N
Test Line Indicator	4063	Y	N	Y	N	N	N	N	N	Y	N
Redirection Number	4065	N	N	Y	N	N	N	N	N	Y	N
Ingress SigPath ID	4066	Y	N	Y	N	N	Y	N	N	N	N
Ingress Span ID	4067	Y	N	Y	N	N	Y	N	N	N	N
Ingress BearChan ID	4068	Y	N	Y	N	N	Y	N	N	Y (9.3 and up)	N
Ingress Protocol ID	4069	Y	N	Y	N	N	Y	N	N	N	N
Egress SigPath ID	4070	Y	N	Y	N	N	Y	N	N	N	N
Egress Span ID	4071	Y	N	Y	N	N	Y	N	N	N	N
Egress BearChan ID	4072	Y	N	Y	N	N	Y	N	N	Y (9.3 and up)	N
Egress Protocol ID	4073	Y	N	Y	N	N	Y	N	N	N	N
Maintenance SigPath ID	4074	N	N	N	N	N	N	Y	N	N	1071

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Maintenance Span ID	4075	N	N	N	N	N	N	Y	N	N	N
Maintenance BearChan ID	4076	N	N	N	N	N	N	Y	N	N	N
Maintenance Circuits Count	4077	N	N	N	N	N	N	Y	N	N	N
Charge Band Number	4078	N	N	Y	Y	N	N	N	N	Y	N
Furnish Charging Information	4079	N	N	Y	Y	N	N	N	N	Y	N
Original Called Number	4080	Y	N	Y	N	N	Y	N	N	Y	N
T.38 Fax Call	4081	Y	Y	N	N	Y	Y	Y	Y	N	N
Charge Unit Number	4082	N	N	Y	Y	N	N	N	N	Y	N
Charge Indicator	4083	Y	N	Y	Y	N	N	N	N	Y	N
Outgoing Calling Party Number	4084	Y	N	Y	Y	N	N	N	N	Y	N
MCID Request Indicator	4085	Y	N	Y	Y	N	N	N	N	Y	N
MCID Response Indicator	4086	Y	N	Y	Y	N	N	N	N	Y	N
Ingress MGCP DLCX Return Code	4087	N	N	Y	Y	N	N	N	N	Y	N
Egress MGCP DLCX Return Code	4088	N	N	Y	Y	N	N	N	N	Y	N
Network Translated Address Indicator	4089	Y	N	Y	Y	N	N	N	N	Y	N
Reservation Request Accepted	4090	Y	N	Y	Y	N	N	N	N	Y	N
Reservation Request Error Count	4091	N	N	Y	Y	N	N	N	N	Y	N
ATM Ingress Configured Profile	4092	Y	N	Y	N	N	N	N	N	Y	N
ATM Egress Configured Profile	4093	Y	N	Y	N	N	N	N	N	Y	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maint-enance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
ATM Negotiated Profiler	4094	Y	N	Y	N	N	N	N	N	Y	N
Route List Name	4095	Y	N	Y	Y	N	N	N	N	Y	N
Route Name	4096	Y	N	Y	Y	N	N	N	N	Y	N
MGCP Script Response String	4097	N	N	N	Y	N	N	N	N	Y	N
Originating Leg DSP statistics (9.4 and up)	4098	N	N	Y	Y	N	N	N	N	Y	N
Terminating Leg DSP statistics (9.4 and up)	4099	N	N	Y	Y	N	N	N	N	Y	N
Originating Remote SIP Host	4201	Y	N	Y	N	N	N	N	N	Y	N
Originating Local SIP Host	4202	Y	N	Y	N	N	N	N	N	Y	N
SIP Call ID	4203	Y	N	Y	N	N	N	N	N	Y	N
Source IP Address	4204	Y	N	Y	N	N	N	N	N	Y	N
Ingress Media Device Address	4205	Y	N	Y	Y	N	N	N	N	Y	N
Egress Media Device Address	4206	Y	N	Y	Y	N	N	N	N	Y	N
Initial Codec	4207	Y	N	Y	Y	N	N	N	N	Y	N
Final Codec	4208	N	N	Y	Y	N	N	N	N	Y	N
Ingress Media Device Port	4209	Y	N	Y	Y	N	N	N	N	Y	N
Egress Media Device Port	4210	Y	N	Y	Y	N	N	N	N	Y	N
Originating VPN ID	4211	Y	N	Y	N	N	N	N	N	Y	N
Terminating VPN ID	4212	Y	N	Y	N	N	N	N	N	Y	N
Meter Pulses Received	4213	N	N	N	Y	N	Y	N	N	Y	N
Meter Pulses Sent	4214	N	N	N	Y	N	Y	N	N	Y	N
Charge Tariff Info	4215	N	N	N	Y	N	N	N	N	Y	N
Advice of Charge Indicator	4216	N	N	N	Y	N	N	N	N	Y	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maint-enance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Short Call Indicator	4217	N	N	N	Y	N	N	N	N	Y	N
Charge Limit Exceeded	4218	N	N	N	Y	N	N	N	N	Y	N
Call Recovered Indication	4219	N	N	N	Y	N	N	N	N	Y	N
Partial Calling Line Identity	4220	Y	N	Y	N	N	Y	N	N	Y	N
Service Activation	4221	N	N	N	Y	N	N	N	N	Y	N
PRI AOC Invoke Type	4222	N	N	Y	Y	N	N	N	N	Y	N
PRI AOC – S Charge Information	4223	N	N	Y	Y	N	N	N	N	Y	N
PRI AOC – D Charge Information	4224	N	N	Y	Y	N	N	N	N	Y	N
PRI AOC – E Charge Information	4225	N	N	Y	Y	N	N	N	N	Y	N
PRI AOC Invoke Failure	4226	N	N	Y	Y	N	N	N	N	Y	N
RO/PR Executed (added in 9.6)	4227	N	N	N	Y	N	N	N	N	Y	1210 1260
RO/PR Other Call Ref (added 9.6)	4228	N	N	N	Y	N	N	N	N	Y	1210 1260
RO/PR Trunk Group Info (added in 9.6)	4229	N	N	N	Y	N	N	N	N	Y	N
RO/PR Replacement Chan ID (added in 9.6)	4230	N	N	N	Y	N	N	N	N	Y	N
RO Switchover Timestamp (added in 9.6)	4231	N	N	N	Y	N	N	N	N	Y	N
Rejecting Location Label (added in 9.6(1))	4232	N	Y	Y	N	N	N	N	N	Y	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
Rejecting Location Label Direction (added in 9.6(1))	4233	N	Y	Y	N	N	N	N	N	Y	N
PRI AOC – E Charge Information	4234	N	N	N	Y	N	N	N	N	N	1071
PRI AOC Invoke Failure	4235	N	N	N	Y	N	N	N	N	N	1071
H323 Destination	4236	Y	N	Y	N	N	N	N	N	Y	
Ingress Redirecting Number	4237	Y	N	Y	N	N	Y	N	N	Y	N
Service Usage Data	4239	N	N	Y	Y	N	N	N	N	Y	N
CNAM DIP	4240	Y	N	Y	Y	N	N	N	N	Y	N
Calling Name	4241	Y	N	Y	Y	N	N	N	N	Y	N
Terminating Remote SIP Host	4242	Y	N	Y	N	N	N	N	N	Y	N
Terminating Local SIP Host	4243	Y	N	Y	N	N	N	N	N	Y	N
License Rejecting Reason	4244	N	N	Y	N	N	N	N	N	Y	N
License Rejecting Direction	4245	N	N	Y	N	N	N	N	N	Y	N
SIP Transport	4246	Y	N	Y	N	N	N	N	N	Y	N
SIP Routing URI Source	4247	Y	N	Y	N	N	N	N	N	Y	N
SIP Routing URI	4248	Y	N	Y	N	N	N	N	N	Y	N
Millisecond Granularity Timepoint Fields											
IAM Timepoint Received_ms	4100	Y	Y	Y	N	N	Y	N	N	Y	N
IAM Timepoint Sent_ms	4101	Y	Y	Y	N	N	Y	N	N	Y	N
ACM Timepoint Received_ms	4102	Y	N	Y	N	N	Y	N	N	Y	N
ACM Timepoint Sent_ms	4103	Y	N	Y	N	N	Y	N	N	Y	N
ANM Timepoint Received_ms	4104	Y	N	N	N	N	Y	N	N	Y	N

Table 1-5 CDE Detail Description for the Current Release (continued)

Field Name	Tag Value	Answered (1010)	De-selected (1020)	Aborted (1030)	Release (1040)	Interrupted (1050)	On-going (1060)	Maintenance (1070)	External DB (1080)	End of Call (1110)	1071 1210 1260
ANM Timepoint Sent_ms	4105	Y	N	N	N	N	Y	N	N	Y	N
First REL Timepoint_ms	4106	N	Y	Y	Y	N	N	N	N	Y	N
Second REL Timepoint_ms	4107	N	N	Y	Y	N	N	N	N	Y	N
RLC Timepoint Received_ms	4108	N	Y	Y	Y	N	N	N	N	Y	N
RLC Timepoint Sent_ms	4109	N	Y	Y	Y	N	N	N	N	Y	N
Cisco Reserved Tags											
Unique Call Correlator ID (Release 9 and later)	5000	Y	Y	Y	Y	Y	Y	Y	Y	Y	1071 1210 1260
Miscellaneous Fields		This field is used only in the File Header CDB and File Footer CDB. These CDBs are *not* optional and are generated by the CDR dumper for each CDR file.									
MGC ID	6000										
File Start Time	6001										
File End Time	6002										
Total Number of CDB records	6003										
MGC Version	6004										
Interim CDB	6005	N	N	N	Y	N	N	N	N	Y	N
Protocol Specific Fields											
TTC Contract #	6100	Y	Y	Y	N	N	N	N	N	N	N
TTC Contract # NOA	6101	Y	Y	Y	N	N	N	N	N	N	N
TTC Charge Info	6102	Y	Y	Y	N	N	N	N	N	N	N
TTC Charge Info Type	6103	Y	Y	Y	N	N	N	N	N	N	N
TTC Charge Area Info	6104	Y	Y	Y	N	N	N	N	N	N	N

Cisco MGC Billing Interfaces

There are two billing interfaces provided by the Cisco MGC. They are:

- File Transfer Protocol (FTP) interface
- Generic interface

FTP Interface

The FTP interface allows the user to FTP the CDR files from the spool directory. This interface supports users who own a mediation system or data collocation system. Users can process the CDR files on a separate system.

The Cisco MGC runs on Solaris UNIX that provides the standard file transfer capability (FTP). The Cisco MGC can be configured so other systems can download the CDR files from the spool directory. The FTP download can be restricted by establishing user privileges.

The data collector and mediation systems can use this interface by periodically downloading the files. The CDR files provide a sequence number and the timestamp of the file creation. The data collection system or the mediation system can use this information to determine the desired file to download.

The Cisco MGC has several configuration parameters to write the CDR file. The following are the configuration parameters:

- The prefix in the file name (CDR_YYYYMMDDHHMMSS_SeqNo) where SeqNo is in the format (000001 to 999999)
- Spool directory
- Frequent creation of the file

The sequence number provides an audit capability to the data collection system or mediation software. The sequence number is unique and ranges from 1 to 999999. If the system fails or restarts, it uses the next sequence number (last sequence number + 1). When the sequence number reaches 999999, it then restarts at 1.

Generic Interface

The Cisco MGC defines a generic or flexible billing interface. This is an internal interface between the call processing module and the CDR dumper in Cisco MGC. Users cannot modify this interface.

This interface provides a CDB data stream for the CDR dumper. The generic interface is based on the flexible CDB record layout. The record layout uses a tag, length, and value (TLV) encoding mechanism. The detail messages (that is, CDBs) are explained later in this document.

Redundant Cisco MGC Configuration

In a redundant Cisco MGC configuration, the active Cisco MGC creates checkpoint records to synchronize it with the standby Cisco MGC. The standby Cisco MGC creates call objects with appropriate states to allow continued call processing after switchover occurs. When the standby Cisco MGC becomes active, it starts synchronizing with End Offices (circuit audit). Another aspect of the architecture is that the Cisco 2600s buffer messages while failover occurs.

Billing under a redundant configuration is basically limited to the following: The active Cisco MGC generates the CDBs and the standby Cisco MGC does not. When failover occurs, the now active Cisco MGC generates the CDBs.

If a call was stable during the failover, then the newly active Cisco MGC eventually generates an end of a call CDB (Release CDB or possibly an Interrupted CDB) for each call. The CDBs generated by the previous standby MGC include the same unique Call IDs. The mediation software requires correlating the CDB records from both systems. For both systems to be properly correlated, both Cisco MGC clocks must be synchronized with each other.

Cisco MGC Clock Synchronization

The Cisco MGC uses Network Time Protocol (NTP) to synchronize its time to another server or reference time source, such as a radio or satellite receiver or modem. For example, the NTP provides client accuracy that is typically within 1 millisecond on LANs and up to a few tenths of a second on WANs relative to a primary server synchronized to Coordinated Universal Time (UTC) by a Global Positioning Service (GPS) receiver. To achieve high accuracy and reliability, typical NTP configurations use multiple redundant servers and diverse network paths. Some configurations include cryptographic authentication to prevent accidents or malicious protocol attacks.

Note RFC-1305 provides information on the NTP architecture, protocol, and algorithm.

Detailed CDB Description

This section contains the distinct record layouts for the CDB. Since each type of CDB is for a different part of a call, the Cisco MGC provides the related CDEs that are needed.

Note The CDE includes only fields that have values. The layout varies based on the Cisco MGC configuration. For example, if the Cisco MGC is configured with a protocol that does not support a specific CDE, then the CDB record does not include that particular CDE.

Answered CDB Record (Tag: 1010/Release 5 or Later)

Table 1-6 lists data about the answered message. This CDB is generated when a call went through and was answered (when the Cisco MGC receives ANM/Answered message).

Table 1-6 Answered CDB Record

Field Name	Tag Value	Comments
ANSI Based Formatted Fields		When configured for ANSI-based formatted fields (Release 7 or later option)
Calling Party Category	2000	
User Service Information	2001	
Originating Line Information	2002	
Calling Number Nature of Address	2003	
Charged Number Nature of Address	2004	

Table 1-6 Answered CDB Record (continued)

Field Name	Tag Value	Comments
Dialed Number Nature of Address	2005	
LRN Nature of Address	2006	
Called Number Nature of Address	2007	
Forward Call Indicators Received	2009	
Forward Call Indicators Sent	2010	
Nature of Connection Indicators Received	2011	
Nature of Connection Indicators Sent	2012	
Transit Network Selection	2013	
Carrier Identification Parameter	2014	
Carrier Selection Parameter	2015	
Jurisdiction Information Parameter	2016	
Redirecting Number NOA	2017	
Egress Calling Number NOA	2018	Added in a Release 9.5(2) patch
Egress Redirecting Number NOA	2019	Added in a Release 9.5(2) patch
Egress Original Called Number NOA	2020	Added in a Release 9.5(2) patch
ITU Based Formatted Fields		When configured for ITU-based formatted fields (Release 7 or later option)
Calling Party Category	3000	
User Service Information	3001	
Originating Line Information	3002	
Calling Number Nature of Address	3003	
Dialed Number Nature of Address	3005	
LRN Nature of Address	3006	
Called Number Nature of Address	3007	
Forward Call Indicators Received	3009	
Forward Call Indicators Sent	3010	
Nature of Connection Indicators Received	3011	
Nature of Connection Indicators Sent	3012	
Transit Network Selection	3013	
Redirecting Number NOA	3017	
Egress Calling Number NOA	3018	Added in a Release 9.5(2) patch
Egress Redirecting Number NOA	3019	Added in a Release 9.5(2) patch
Egress Original Called Number NOA	3020	Added in a Release 9.5(2) patch

Table 1-6 Answered CDB Record (continued)

Field Name	Tag Value	Comments
MGC Generic Tags		
CDB Versionb	4000	
CDB Timepoint	4001	
Call Reference ID	4002	
IAM Timepoint	4003	When configured for seconds timepoint (Release 7 or later option)
ACM Timepoint	4004	When configured for seconds timepoint (Release 7 or later option)
ANM Timepoint	4005	When configured for seconds timepoint (Release 7 or later option)
Originating Trunk Group	4008	
Originating Member	4009	
Calling Number	4010	
Charged Number	4011	
Dialed Number	4012	
LRN Number	4013	
Called Number	4014	
Terminating Trunk Group	4015	
Terminating Member	4016	
LNP Dip	4029	
MGC Info Field	4031	Disabled as of Release 7.3.x, 7.4.x
Ingress Originating Point Code	4034	
Ingress Destination Point Code	4035	
Egress Originating Point Code	4036	
Egress Destination Point Code	4037	
Ingress Media Gateway (CU)	4038	Ingress Media Gateway ID
Egress Media Gateway (CU)	4039	Egress Media Gateway ID
TCAP Transaction Identification	4040	
Transaction Start Time	4041	
Transaction End Time	4042	
TCAP Database Identification	4043	
Route Selection Info	4045	
Directional Flag	4048	
Redirecting Number	4060	Number or address from which forwarded
Test Line Indicator	4063	

Table 1-6 Answered CDB Record (continued)

Field Name	Tag Value	Comments
Ingress SigPath ID	4066	
Ingress Span ID	4067	
Ingress BearChan ID	4068	
Ingress ProtocolId	4069	
Egress SigPath ID	4070	
Egress Span ID	4071	
Egress BearChan ID	4072	
Egress ProtocolId	4073	
Original Called Number	4080	Release 9.3(1) and later
Charge Indicator	4083	Release 9.5(2) and later
Outgoing Calling Party Number	4084	Release 9.5(2) and later
MCID Request Indicator	4085	Release 9.5(2) and later
MCID Response Indicator	4086	Release 9.5(2) and later
Network Translated Address Indicator	4089	Release 9.5(2) and later
Reservation Request Accepted	4090	Release 9.5(2) and later
Reservation Request Error Count	4091	Release 9.5(2) and later
ATM Ingress Configured Profile	4092	Release 9.5(2) and later
ATM Egress Configured Profile	4093	Release 9.5(2) and later
ATM Negotiated Profile	4094	Release 9.5(2) and later
Route List Name	4095	Release 9.5(2) and later
Route Name	4096	Release 9.5(2) and later
MGCP Script Response String	4097	Release 9.5(2) and later
Originating Remote SIP Host	4201	Release 9 and later (Named as Ingress SIP URL in versions prior to the Release 9.7(3))
Originating Local SIP Host	4202	Release 9 and later (Named as Egress SIP URL in versions prior to the Release 9.7(3))
SIP Call ID	4203	Release 9 and later
Source IP Address	4204	Release 9.4(1) and later
Ingress Media Device Address	4205	Release 9.4(1) and later
Egress Media Device Address	4206	Release 9.4(1) and later
Initial Codec	4207	Release 9.4(1) and later
Ingress Media Device Port	4209	Release 9.4(1) and later
Egress Media Device Port	4210	Release 9.4(1) and later
Originating VPN ID	4211	Release 9.4(1) and later
Terminating VPN ID	4212	Release 9.4(1) and later
Partial Calling Line Identity	4220	Release 9.5(2) and later

Table 1-6 Answered CDB Record (continued)

Field Name	Tag Value	Comments
H323 Destination	4236	Release 9.7 and later
Ingress Redirecting Number	4237	Added in a Release 9.5(2) patch
CNAM DIP	4240	Release 9.7 and later
Calling Name	4241	Release 9.7 and later
Terminating Remote SIP Host	4242	Release 9.7 and later
Terminating Local SIP Host	4243	Release 9.7 and later
SIP Transport	4246	Release 9.7 and later
SIP Routing URI Source	4247	Release 9.7 and later
SIP Routing URI	4248	Release 9.7 and later
Millisecond Granularity Timepoint Fields		
IAM Timepoint Received_ms	4100	
IAM Timepoint Sent_ms	4101	
ACM Timepoint Received_ms	4102	
ACM Timepoint Sent_ms	4103	
ANM Timepoint Received_ms	4104	
ANM Timepoint Sent_ms	4105	
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

Deselected Outgoing Circuit CDB Record (Tag: 1020/Release 5 or Later)

Table 1-7 lists data about the deselected outgoing circuit. CDB Tag 1020 is generated when a circuit is attempted to be used and for some reason the circuit can not be used. The call is then passed to another circuit to complete the call.

Table 1-7 Deselected Outgoing Circuit CDB Record

Field Name	Tag Value	Comments
ANSI Based Formatted Fields		When configured for ANSI encoding (Release 7 or later)
Reason Code	2008	
Forward Call Indicators Received	2009	
Forward Call Indicators Sent	2010	
Nature of Connection Indicators Received	2011	
Nature of Connection Indicators Sent	2012	

Table 1-7 Deselected Outgoing Circuit CDB Record (continued)

Field Name	Tag Value	Comments
ITU Based Formatted Fields		When configured for ITU encoding (Release 7 or later)
Reason Code	3008	
Forward Call Indicators Received	3009	
Forward Call Indicators Sent	3010	
Nature of Connection Indicators Received	3011	
Nature of Connection Indicators Sent	3012	
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	
Call Reference ID	4002	
IAM Timepoint	4003	When timepoint in seconds is selected
REL Timepoint	4006	When timepoint in seconds is selected
Originating Trunk Group	4008	
Originating Member	4009	
Terminating Trunk Group	4015	
Terminating Member	4016	
Glare Encountered	4019	
RLC Timepoint	4020	
First Release Source	4028	
Ingress Originating Point Code	4034	
Ingress Destination Point Code	4035	
Egress Originating Point Code	4036	
Egress Destination Point Code	4037	
Ingress Media Gateway (CU)	4038	
Egress Media Gateway (CU)	4039	
Rejecting Location Label	4232	Release 9.6(1) and later
Rejecting Location Label Direction	4233	Release 9.6(1) and later
Millisecond Granularity Timepoint Fields		When configured for milliseconds (Release 7 or later)
IAM Timepoint Received_ms	4100	
IAM Timepoint Sent_ms	4101	
First REL Timepoint_ms	4106	
RLC Timepoint Received_ms	4108	

Table 1-7 Deselected Outgoing Circuit CDB Record (continued)

Field Name	Tag Value	Comments
RLC Timepoint Sent_ms	4109	
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

Aborted Attempt CDB Record (Tag: 1030/Release 5 or Later)

Table 1-8 lists data about the aborted attempt. CDB Tag 1030 is generated for an attempted call that did not get to Setup status. That is a call that did not get answered.

Table 1-8 Aborted Attempt CDB Record

Field Name	Tag Value	Comments
ANSI Based Formatted Fields		When configured for ANSI based encoding (Release 7 or later)
Calling Party Category	2000	
User Service Information	2001	
Originating Line Information	2002	
Calling Number Nature of Address	2003	
Charged Number Nature of Address	2004	
Dialed Number Nature of Address	2005	
LRN Nature of Address	2006	
Called Number Nature of Address	2007	
Reason Code	2008	
Forward Call Indicators Received	2009	
Nature of Connection Indicators Received	2011	
Nature of Connection Indicators Sent	2012	
Transit Network Selection	2013	
Carrier Identification Parameter	2014	
Carrier Selection Parameter	2015	
Jurisdiction Information Parameter	2016	
Redirecting Number NOA	2017	
Egress Calling Number NOA	2018	Added in a Release 9.5(2) patch
Egress Redirecting Number NOA	2019	Added in a Release 9.5(2) patch
Egress Original Called Number NOA	2020	Added in a Release 9.5(2) patch

Table 1-8 Aborted Attempt CDB Record (continued)

Field Name	Tag Value	Comments
ITU Based Formatted Fields		When configured for ITU encoding (Release 7 or later)
Calling Party Category	3000	
User Service Information	3001	
Originating Line Information	3002	
Calling Number Nature of Address	3003	
Dialed Number Nature of Address	3005	
LRN Nature of Address	3006	
Called Number Nature of Address	3007	
Reason Code	3008	
Forward Call Indicators Received	3009	
Nature of Connection Indicators Received	3011	
Transit Network Selection	3013	
Redirecting Number NOA	3017	
Egress Calling Number NOA	3018	Added in a Release 9.5(2) patch
Egress Redirecting Number NOA	3019	Added in a Release 9.5(2) patch
Egress Original Called Number NOA	3020	Added in a Release 9.5(2) patch
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	
Call Reference ID	4002	
IAM Timepoint	4003	When configured for seconds timepoint
ACM Timepoint	4004	When configured for seconds timepoint
REL Timepoint	4006	When configured for seconds timepoint
Originating Trunk Group	4008	
Originating Member	4009	
Calling Number	4010	
Charged Number	4011	
Dialed Number	4012	
LRN Number	4013	
Called Number	4014	
Terminating Trunk Group	4015	
Terminating Member	4016	
Glare Encountered	4019	

Table 1-8 Aborted Attempt CDB Record (continued)

Field Name	Tag Value	Comments
RLC Timepoint	4020	When timepoint in seconds is selected
First Release Source	4028	
LNP Dip	4029	
MGC Info Field	4031	Disabled as of Release 7.3.x and 7.4.x
Ingress Originating Point Code	4034	
Ingress Destination Point Code	4035	
Egress Originating Point Code	4036	
Egress Destination Point Code	4037	
Ingress Media Gateway (CU)	4038	
Egress Media Gateway (CU)	4039	
Ingress Gateway Packet Info	4046	Restored as of Release 9.4(1)
Egress Gateway Packet Info	4047	Restored as of Release 9.4(1)
Directional Flag	4048	
Redirecting Number	4060	
Tariff Rate	4061	
Scale Factor	4062	
Test Line Indicator	4063	
Redirection Number	4065	Release 9.7(3) and later
Ingress SigPath ID	4066	
Ingress Span ID	4067	
Ingress BearChan ID	4068	
Ingress ProtocolId	4069	
Egress SigPath ID	4070	
Egress Span ID	4071	
Egress BearChan ID	4072	
Egress ProtocolId	4073	
Charge Band Number	4078	Release 9.3(1) and later
Furnish Charging Information	4079	Release 9.3(1) and later
Original Called Number	4080	Release 9.3(1) and later
T.38 Fax Call	4081	Release 9.3(2) and later
Charge Unit Number	4082	Release 9.3(2) and later
Charge Indicator	4083	Release 9.5(2) and later
Outgoing Calling Party Number	4084	Release 9.5(2) and later
MCID Request Indicator	4085	Release 9.5(2) and later
MCID Response Indicator	4086	Release 9.5(2) and later

Table 1-8 Aborted Attempt CDB Record (continued)

Field Name	Tag Value	Comments
Ingress MGCP DLCX Return Code	4087	Release 9.5(2) and later
Egress MGCP DLCX Return Code	4088	Release 9.5(2) and later
Network Translated Address Indicator	4089	Release 9.5(2) and later
Reservation Request Accepted	4090	Release 9.5(2) and later
Reservation Request Error Count	4091	Release 9.5(2) and later
ATM Ingress Configured Profile	4092	Release 9.5(2) and later
ATM Egress Configured Profile	4093	Release 9.5(2) and later
ATM Negotiated Profile	4094	Release 9.5(2) and later
Route List Name	4095	Release 9.5(2) and later
Route Name	4096	Release 9.5(2) and later
Originating Leg DSP Statistics	4098	Release 9.4(1) and later
Terminating Leg DSP Statistics	4099	Release 9.4(1) and later
Originating Remote SIP Host	4201	Release 9 and later (Named as Ingress SIP URL in versions prior to the Release 9.7(3))
Originating Local SIP Host	4202	Release 9 and later (Named as Egress SIP URL in versions prior to the Release 9.7(3))
SIP Call ID	4203	Release 9 and later
Source IP Address	4204	Release 9.4(1) and later
Ingress Media Device Address	4205	Release 9.4(1) and later
Egress Media Device Address	4206	Release 9.4(1) and later
Initial Codec	4207	Release 9.4(1) and later
Final Codec	4208	Release 9.4(1) and later
Ingress Media Device Port	4209	Release 9.4(1) and later
Egress Media Device Port	4210	Release 9.4(1) and later
Originating VPN ID	4211	Release 9.4(1) and later
Terminating VPN ID	4212	Release 9.4(1) and later
Partial Calling Line Identity	4220	Release 9.5(2) and later
Service Activation	4221	Added in Release 9.5(2), modified in 9.6(1)
PRI AOC Invoke Type	4222	Release 9.5(2) and later
PRI AOC – S Charge Information	4223	Release 9.5(2) and later
PRI AOC – D Charge Information	4224	Release 9.5(2) and later
PRI AOC – E Charge Information	4225	Release 9.5(2) and later
PRI AOC Invoke Failure	4226	Release 9.5(2) and later
Rejecting Location Label	4232	Release 9.6(1) and later
Rejecting Location Label Direction	4233	Release 9.6(1) and later

Table 1-8 Aborted Attempt CDB Record (continued)

Field Name	Tag Value	Comments
H323 Destination	4236	Release 9.7 and later
Ingress Redirecting Number	4237	Added in a Release 9.5(2) patch
Service Usage Data	4239	Release 9.7 and later
CNAM DIP	4240	Release 9.7 and later
Calling Name	4241	Release 9.7 and later
Terminating Remote SIP Host	4242	Release 9.7 and later
Terminating Local SIP Host	4243	Release 9.7 and later
License Rejecting Reason	4244	Release 9.7 and later
License Rejecting Direction	4245	Release 9.7 and later
SIP Transport	4246	Release 9.7 and later
SIP Routing URI Source	4247	Release 9.7 and later
SIP Routing URI	4248	Release 9.7 and later
Millisecond Granularity Timepoint Fields		When configured for milliseconds granularity for timepoints fields
IAM Timepoint Received_ms	4100	
IAM Timepoint Sent_ms	4101	
ACM Timepoint Received_ms	4102	
ACM Timepoint Sent_ms	4103	
First REL Timepoint_ms	4106	
Second REL Timepoint_ms	4107	
RLC Timepoint Received_ms	4108	
RLC Timepoint Sent_ms	4109	
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

Release CDB Record (Tag: 1040/Release 5 or Later)

Table 1-9 lists data about the release CDB. CDB Tag 1040 is generated when the terminating CDB on a call that went through and was answered and then released.

Table 1-9 Release CDB Record

Field Name	Tag Value	Comments
ANSI Based Formatted Fields		When configured for ITU encoding (Release 7 or later)
Reason Code	2008	

Table 1-9 Release CDB Record (continued)

Field Name	Tag Value	Comments
ITU Based Formatted Fields		When configured for ITU encoding (Release 7 or later)
Reason Code	3008	
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	
Call Reference ID	4002	
REL Timepoint	4006	When configured for seconds granularity timepoints
Glare Encountered	4019	
RLC Timepoint	4020	When configured for seconds granularity timepoints
First Release Source	4028	
Total Meter Pulses	4030	
Announcement Identification	4044	
Ingress Gateway Packet Info	4046	Restored as of Release 9.4(1)
Egress Gateway Packet Info	4047	Restored as of Release 9.4(1)
Tariff Rate	4061	
Scale Factor	4062	
Charge Band Number	4078	Release 9.3(1) and later
Furnish Charging Information	4079	Release 9.3(1) and later
T.38 Fax Call	4081	Release 9.3(2) and later
Charge Unit Number	4082	Release 9.3(2) and later
Charge Indicator	4083	Release 9.5(2) and later
Outgoing Calling Party Number	4084	Release 9.5(2) and later
MCID Request Indicator	4085	Release 9.5(2) and later
MCID Response Indicator	4086	Release 9.5(2) and later
Ingress MGCP DLCX Return Code	4087	Release 9.5(2) and later
Egress MGCP DLCX Return Code	4088	Release 9.5(2) and later
Network Translated Address Indicator	4089	Release 9.5(2) and later
Reservation Request Accepted	4090	Release 9.5(2) and later
Reservation Request Error Count	4091	Release 9.5(2) and later
Route List Name	4095	Release 9.5(2) and later
Route Name	4096	Release 9.5(2) and later
MGCP Script Response String	4097	Release 9.5(2) and later

Table 1-9 Release CDB Record (continued)

Field Name	Tag Value	Comments
Originating Leg DSP Statistics	4098	Release 9.4(1) and later
Terminating Leg DSP Statistics	4099	Release 9.4(1) and later
Ingress Media Device Address	4205	Release 9.4(1) and later
Egress Media Device Address	4206	Release 9.4(1) and later
Initial Codec	4207	Release 9.4(1) and later
Final Codec	4208	Release 9.4(1) and later
Ingress Media Device Port	4209	Release 9.4(1) and later
Egress Media Device Port	4210	Release 9.4(1) and later
Meter Pulses Received	4213	Release 9.5(2) and later
Meter Pulses Sent	4214	Release 9.5(2) and later
Charge Tariff Info	4215	Release 9.5(2) and later
Advice of Charge Indicator	4216	Release 9.5(2) and later
Short Call Indicator	4217	Release 9.5(2) and later
Charge Limit Exceeded	4218	Release 9.5(2) and later
Call Recovered Indication	4219	Release 9.5(2) and later
Service Activation	4221	Added in Release 9.5(2), modified in 9.6(1)
PRI AOC Invoke Type	4222	Release 9.5(2) and later
PRI AOC – S Charge Information	4223	Release 9.5(2) and later
PRI AOC – D Charge Information	4224	Release 9.5(2) and later
PRI AOC – E Charge Information	4225	Release 9.5(2) and later
PRI AOC Invoke Failure	4226	Release 9.5(2) and later
RO/PR Executed	4227	Release 9.6(1) and later
RO/PR Other Call Ref	4228	Release 9.6(1) and later
RO/PR Replacement Trunk Group	4229	Release 9.6(1) and later
RO/PR Replacement Chan ID	4230	Release 9.6(1) and later
RO/PR Switchover Timestamp	4231	Release 9.6(1) and later
Service Usage Data	4239	Release 9.7 and later
CNAM DIP	4240	Release 9.7 and later
Calling Name	4241	Release 9.7 and later
Millisecond Granularity Timepoint Fields		When configured for ITU encoding (Release 7 or later)
First REL Timepoint_ms	4106	
Second REL Timepoint_ms	4107	
RLC Timepoint Received_ms	4108	
RLC Timepoint Sent_ms	4109	

Table 1-9 Release CDB Record (continued)

Field Name	Tag Value	Comments
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

Interrupted CDB Record (Tag: 1050/Release 5 or Later)

Table 1-10 lists data about the interrupted CDB. CDB Tag 1050 is created when a call is terminated without a Release message. This happens for example, in hot standby configuration when dual Cisco MGCs are used, and when failover occurs and the now active Cisco MGC discovers that a call is no longer active (the release message probably arrived and was lost during the failover window).

Table 1-10 Interrupt CDB Record

Field Name	Tag Value	Comments
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	
Call Reference ID	4002	
Crash Timepoint	4007	
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

On-Going (Call) CDB Record (Tag: 1060/Release 5 or Later)

The On-going Call CDB (or Long-Call CDB) indicates that a call is still active after the expiration of the time span defined in the XECfgParm.dat parameter **.LongCallTime*. This CDB is generated again each time the period defined in **.LongCallTime* elapses while the call is active. For example, if **.LongCallTime* is set to its default value, 21600000 ms, which is equal to 6 hours, a 1060 CDB is generated every 6 hours until the call is terminated.

Note When the MGC is configured to create only the 1110 CDB (End-of-Call Summary) and this CDB, all of the relevant 1060 tags are present and populated. This is because the 1060 CDB may be the first CDB that is written for a call, if it has been active for the long-call period. In this case, the 1060 CDB contains the full set of populated tags. However, when the MGC is configured to generate event-based CDBs (such as 1010, 1020, 1030, 1040, 1050, 1060, 1070, and 1080) the 1060 CDB can contain only a subset of tags: 5000, 4000–4002, 4213, and 4214. This occurs because the other event-based CDBs contain the tag information, as they are associated with specific events. Therefore, in this instance the 1060 CDB does not contain this redunant data, as it would be outside the primary purpose of this CDB.

Table 1-11 lists data about the on-going (Call) CDB.

Note In Release 7 and later, the long duration includes more fields than it does in Release 5. The extra fields are marked Release 7 and later.

Table 1-11 On-going CDB Record

Field Name	Tag Value	Comments
ANSI-Specific Tags		
Egress Calling Number NOA	2018	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
Egress Redirecting Number NOA	2019	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
Egress Original Called Number NOA	2020	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
ITU-Specific Tags		
Egress Calling Number NOA	3018	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
Egress Redirecting Number NOA	3019	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
Egress Original Called Number NOA	3020	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
MGC Generic Tags		
CDB Version	4000	Always present and populated in 1060.
CDB Timepoint	4001	Always present and populated in 1060.
Call Reference ID	4002	Always present and populated in 1060.
IAM Timepoint	4003	Optional. Present only when 1110 is configured and if system is configured for seconds timepoint.
ACM Timepoint	4004	Optional. Present only when 1110 is configured and if system is configured for seconds timepoint.
ANM/Answer Timepoint	4005	Optional. Present only when 1110 is configured and if system is configured for seconds timepoint.
Originating Trunk Group	4008	Optional. Present only when 1110 is configured.
Originating Member	4009	Optional. Present only when 1110 is configured.

Table 1-11 On-going CDB Record (continued)

Field Name	Tag Value	Comments
Calling Number	4010	Optional. Present only when 1110 is configured.
Dialed Number	4012	Optional. Present only when 1110 is configured.
Called Number	4014	Optional. Present only when 1110 is configured.
Terminating Trunk Group	4015	Optional. Present only when 1110 is configured.
Terminating Member	4016	Optional. Present only when 1110 is configured.
Ingress SigPath ID	4066	Optional. Present only when 1110 is configured.
Ingress Span ID	4067	Optional. Present only when 1110 is configured.
Ingress BearChan ID	4068	Optional. Present only when 1110 is configured.
Ingress ProtocolId	4069	Optional. Present only when 1110 is configured.
Egress SigPath ID	4070	Optional. Present only when 1110 is configured.
Egress Span ID	4071	Optional. Present only when 1110 is configured.
Egress BearChan ID	4072	Optional. Present only when 1110 is configured.
Egress ProtocolId	4073	Optional. Present only when 1110 is configured.
Original Called Number	4080	Release 9.3(1) and later. Optional. Present only when 1110 is configured.
Meter Pulses Received	4213	Release 9.5(2) and later. Always present and populated in 1060.
Meter Pulses Sent	4214	Release 9.5(2) and later. Always present and populated in 1060.
Partial Calling Line Identity	4220	Release 9.5(2) and later. Optional. Present only when 1110 is configured.
Ingress Redirecting Number	4237	Added in a Release 9.5(2) patch. Present only when 1110 is configured. Not recorded for point-in-call mode.
Millisecond Granularity Timepoint Fields		
IAM Timepoint Received _ms	4100	Optional. Present only when 1110 is configured.
IAM Timepoint Sent_ms	4101	Optional. Present only when 1110 is configured.
ACM Timepoint Received_ms	4102	Optional. Present only when 1110 is configured.
ACM Timepoint Sent_ms	4103	Optional. Present only when 1110 is configured.
ANM Timepoint Received_ms	4104	Optional. Present only when 1110 is configured.
ANM Timepoint Sent_ms	4105	Optional. Present only when 1110 is configured.
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	Always present and populated in 1060.

Maintenance CDB Record (Tag: 1070/Release 5 or Later)

Table 1-12 lists data about the maintenance record CDB type. CDB Tag 1070 is created for maintenance activity (such as block or unblock) on a circuit.

Table 1-12 Maintenance CDB Record

Field Name	Tag Value
MGC Generic Tags	
CDB Version	4000
CDB Timepoint	4001
Call Reference ID	4002
Maint Trunk Group	4017
Maint Circuit Member	4018
Maint Type	4032
Maint Reason (Retired in Release 9.4(1))	4033
Maintenance SigPath ID	4074
Maintenance Span ID	4075
Maintenance BearChan ID	4076
Maintenance Circuits Count	4077
Cisco Reserved Tags	
Unique Call ID (Release 9 and later)	5000

SS7 CIC Audit CDB Record (Tag: 1071/Release 9 or Later)

Table 1-13 lists data about the SS7 CIC audit record CDB type. This CDB is used to record changes to:

- the number of circuits defined for a trunk group when the MGC is configured in Call Control mode
- the number of circuits defined in a signaling service when the MGC is configured in Signaling mode.

This CDB is modeled after the 1070 CDB but does not contain independent CIC statuses, just total counts of CICs defined and unavailable. It is triggered by provisioning changes to the number of circuits in a trunk group (Call Control) or signaling service (Signaling).

Table 1-13 SS7 CIC Audio CDB Record

Field Name	Tag Value	Comments
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	

Table 1-13 SS7 CIC Audio CDB Record (continued)

Field Name	Tag Value	Comments
Maint Trunk Group	4017	Appears when the MGC is configured for call control.
Maintenance SigPath ID	4074	Appears when the MGC is configured for signaling.
Total Circuit Count	4234	added in 9.4(1) patch
Total Circuit Unavailable Count	4235	added in 9.4(1) patch
Cisco Reserved Tags		
Unique Call ID	5000	

Note CDB 1071 is configurable in XECfgParm.dat by adding it in engine.CDRmessageType; but if CDB 1110 is configured, CDB 1071 is suppressed.

Once configured in XECfgParm.dat, CDB 1071 is generated for the following conditions.

- When the MML command **sta-aud-cic** is used to generate the current CIC availability information on each configured ISUP trunk group or signaling service.
- A provisioning change (add or delete) is made in the number of circuits.
- A CIC service state or block state change occurs. A circuit that is unavailable is either blocked, OOS, or both. A circuit that is blocked and also OOS is not double counted as unavailable circuits. The following tables show the action taken when there is a service state or block state change.

Table 1-14 Service State Change

Service State Change	Blocked	Unblocked
OOS	Do nothing	Increment total unavailable counters
IS	Do nothing	Decrement total unavailable counters

Table 1-15 Service Block Change

Service Block Change	OOS	IS
Block	Do nothing	Increment total unavailable counters
Unblock	Do nothing	Decrement total unavailable counters

A blocked state is one or a combination of the following states:

- Manual local block
- Manual remote block
- Auto remote block (hardware failure)
- Auto local block

- Propagation block (gateway initiated blocking)

CDB Tag 1071 generation rules:

- If CDB Tag 1071 is generated as the result of the **sta-aud-cic** MML command, it includes the CIC unavailability information per trunk group for switched configuration, or per signaling service for nailed up. For other two scenarios, it only generates the information for the trunk groups that are impacted.
- CDB Tag 1071 is generated only on the active side.
- To generate the CDB Tag 1071 on a trunk group or signaling service level rather than individual CIC level to minimize CPS impact, an internal 10-second timer is used. 1071 CDB is generated 10 seconds after the initial CIC state change and/or the initial CIC provision change. This delay prevents the flooding of 1071 CDBs if a large number of CICs have blocks or service state changes almost simultaneously.
- The `sta-aud-cic` MML command is rejected for the following conditions:
  - The MML command is attempted to be run on the standby side
  - CDB Tag 1071 is not configured in the XECfgParm.dat file
- A circuit that has COT failure and has COT retest in progress is not counted as unavailable.
- If the CDB Tag 1071 is configured to be generated for Cisco MGC software Release 9.5(2), that pre BAMS 3.20 would require a skip-CDE for the CDB Tag 1071 record to be added to BAMS.

External Access CDB (Tag: 1080/Release 7 or Later)

Table 1-16 lists data about the external access CDB type. CDB Tag 1080 is generated whenever a query is sent to an SCP (or other external device or database).

Table 1-16 External Access CDB Record

Field Name	Tag Value	Information Source
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	Time written
Universal Call Reference ID	4002	
TCAP Transaction Identification	4040	TCAP Transaction ID
Transaction Start Time	4041	Time that TCAP query was sent
Transaction End Time	4042	Time that TCAP response was received
TCAP Database Identification	4043	SCP Selection Number
Service Logic ID	4049	SCP AMASlpID
AMALineNumber	4050	SCP AMALineNumber (Analyze_Route)
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

File Header CDB (Tag: 1090/Release 7 or Later)

The CDR dumper generates the File Header CDB at the beginning of each new CDR file. It is generated according to the CDB creation guidelines, where the first three fields are mandatory and are located in their specified positions (refer to Table 1-17).

Note This CDB is not configurable. Users cannot enable or disable the CDB nor can they select which fields are to be included. This CDB always contains the fields shown in Table 1-17.

Table 1-17 File Header CDB Record

Field Name	Tag Value	Information Source
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	Time written
Universal Call Reference ID	4002	Always 0 for compatibility with all other CDB layouts
Miscellaneous Fields		
File Start Time	6001	
Host MGC ID	6000	
MGC Software Version	6004	

File Footer CDB (Tag: 1100/Release 7 or Later)

The CDR dumper generates the File Footer CDB at the end of each new CDR file. It is generated according to the CDB creation guidelines, where the first three fields are mandatory and are located in their specified positions (refer to Table 1-18).

Note This CDB is not configurable. Users cannot enable or disable the File Footer CDB nor can they select which fields are to be included. This CDB always contains the fields shown in Table 1-18.

Table 1-18 File Footer CDB Record

Field Name	Tag Value	Information Source
MGC Generic Tags		
CDB Version	4000	
CDB Timepoint	4001	

Table 1-18 File Footer CDB Record (continued)

Field Name	Tag Value	Information Source
Call Reference ID	4002	This will always be 0, for compatibility with all other CDB layouts.
Miscellaneous Fields		
File End Time	6002	
Total Number of CDB Records	6003	
Host ID	6000	
MGC Software Version	6004	

End of the Call CDB (Tag: 1110/Release 7 or Later)

When the Cisco MGC software is configured to generate one CDB per call, a CDB is generated that includes basic billing information. It is generated at the end of the call, as is the Release CDB, or an attempted call that did not get to Setup status. That is, a call that did not get answered, as in an Aborted Attempted CDB.

This End of Call CDB consists of the values listed in Table 1-19.

Table 1-19 End of Call CDB Record

ANSI		ITU	
Tag Value	Description	Tag Value	Description
2000	Calling Party Category	3000	Calling Party Category
2001	User Service Information	3001	User Service Information
2003	Calling number NOA	3003	Calling Number NOA
2004	Charged number NOA		Does not exist for ITU
2005	Dialed number NOA	3005	Dialed Number NOA
2007	Called Number NOA	3007	Called Number NOA
2008	Reason Code	3008	Reason Code
2013	Transit Network Selection		
2015	Carrier Selection Parameter		
2017	Redirecting Number NOA	3017	Redirecting Number NOA
2018	Egress Calling Number NOA (Release 9.5(2) and later)	3018	Egress Calling Number NOA (Release 9.5(2) and later)
2019	Egress Redirecting Number NOA (Release 9.5(2) and later)	3019	Egress Redirecting Number NOA (Release 9.5(2) and later)
2020	Egress Original Called Number NOA (Release 9.5(2)) and later)	3020	Egress Original Called Number NOA (Release 9.5(2) and later)
4000	CDB Version	4000	CDB Version

Table 1-19 End of Call CDB Record (continued)

ANSI		ITU	
Tag Value	Description	Tag Value	Description
4001	CDB Timepoint	4001	CDB Timepoint
4002	Call Reference ID	4002	Call Reference ID
4008	Originating Trunk Group	4008	Originating Trunk Group
4009	Originating Member	4009	Originating Member
4010	Calling Number	4010	Calling Number
4011	Charged Number	4011	Charged Number
4012	Dialed Number	4012	Dialed Number
4014	Called Number	4014	Called Number
4015	Terminating Trunk Group	4015	Terminating Trunk Group
4016	Terminating Member	4016	Terminating Member
4028	First Release Source	4028	First Release Source
4031	MGC Info Field (disabled as of Release 7.3.x and 7.4.x)	4031	MGC Info Field (disabled as of Release 7.3.x and 7.4.x)
4034	Ingress Originating Point Code (Release 9.3(2) and up)	4034	Ingress Originating Point Code (Release 9.3(2) and up)
4035	Ingress Destination Point Code (Release 9.3(2) and up)	4035	Ingress Destination Point Code (Release 9.3(2) and up)
4036	Egress Originating Point Code (Release 9.3(2) and up)	4036	Egress Originating Point Code (Release 9.3(2) and up)
4037	Egress Destination Point Code (Release 9.3(2) and up)	4037	Egress Destination Point Code (Release 9.3(2) and up)
4046	Ingress Gateway Packet Info (Restored as of Release 9.4(1))	4046	Ingress Gateway Packet Info (Restored as of Release 9.4(1))
4047	Egress Gateway Packet Info (Restored as of Release 9.4(1))	4047	Egress Gateway Packet Info (Restored as of Release 9.4(1))
4060	Redirecting Number	4060	Redirecting Number
4061	Tariff Rate	4061	Tariff Rate
4062	Scale Factor	4062	Scale Factor
4063	Test Line Indicator	4063	Test Line Indicator
4065	Redirection Number	4065	Redirection Number (Release 9.7(3) and later)
4068	Ingress BearChan ID (Release 9.3(2) and up)	4068	Ingress BearChan ID (Release 9.3(2) and up)
4072	Egress BearChan ID (Release 9.3(2) and up)	4072	Egress BearChan ID (Release 9.3(2) and up)
4078	Charge Band Number	4078	Charge Band Number (
4079	Furnish Charging Information	4079	Furnish Charging Information

Table 1-19 End of Call CDB Record (continued)

ANSI		ITU	
Tag Value	Description	Tag Value	Description
4080	Original Called Number	4080	Original Called Number
4082	Charge Unit Number	4082	Charge Unit Number
4083	Charge Indicator (Release 9.5(2) and up)	4083	Charge Indicator(Release 9.5(2) and up)
4084	Outgoing Calling Party Number (Release 9.5(2) and up)	4084	Outgoing Calling Party Number (Release 9.5(2) and up)
4085	MCID Request Indicator (Release 9.5(2) and up)	4085	MCID Request Indicator (Release 9.5(2) and up)
4086	MCID Response Indicator (Release 9.5(2) and up)	4086	MCID Response Indicator (Release 9.5(2) and up)
4087	Ingress MGCP DLCX Return Code (Release 9.5(2) and up)	4087	Ingress MGCP DLCX Return Code (Release 9.5(2) and up)
4088	Egress MGCP DLCX Return Code (Release 9.5(2) and up)	4088	Egress MGCP DLCX Return Code (Release 9.5(2) and up)
4089	Network Translated Address Indicator (Release 9.5(2) and up)	4089	Network Translated Address Indicator (Release 9.5(2) and up)
4090	Reservation Request Accepted (Release 9.5(2) and up)	4090	Reservation Request Accepted (Release 9.5(2) and up)
4091	Reservation Request Error Count (Release 9.5(2) and up)	4091	Reservation Request Error Count (Release 9.5(2) and up)
4092	ATM Ingress Configured Profile (Release 9.5(2) and up)	4092	ATM Ingress Configured Profile (Release 9.5(2) and up)
4093	ATM Egress Configured Profile (Release 9.5(2) and up)	4093	ATM Egress Configured Profile (Release 9.5(2) and up)
4094	ATM Negotiated Profiler (Release 9.5(2) and up)	4094	ATM Negotiated Profile (Release 9.5(2) and up)
4095	Route List Name (Release 9.5(2) and up)	4095	Route List Name (Release 9.5(2) and up)
4096	Route Name (Release 9.5(2) and up)	4096	Route Name (Release 9.5(2) and up)
4097	MGCP Script Response String (Release 9.5(2) and up)	4097	MGCP Script Response String (Release 9.5(2) and up)
4098	Originating Leg DSP Statistics (Release 9.4(1) and up)	4098	Originating Leg DSP Statistics (Release 9.4(1) and up)
4099	Terminating Leg DSP Statistics (Release 9.4(1) and up)	4099	Terminating Leg DSP Statistics (Release 9.4(1) and up)
4100	IAM Timepoint Received_msec	4100	IAM Timepoint Received_msec
4101	IAM Timepoint Sent_msec	4101	IAM Timepoint Sent_msec
4102	ACM Timepoint Received_msec	4102	ACM Timepoint Received_msec
4103	ACM Timepoint Sent_msec	4103	ACM Timepoint Sent_msec

Table 1-19 End of Call CDB Record (continued)

ANSI		ITU	
Tag Value	Description	Tag Value	Description
4104	ANM Timepoint Received_msec	4104	ANM Timepoint Received_msec
4105	ANM Timepoint Sent_msec	4105	ANM Timepoint sent_msec
4106	First REL Timepoint_msec	4106	First REL Timepoint_msec
4107	Second REL Timepoint_msec	4107	Second REL Timepoint_msec
4108	RLC Timepoint Received_msec	4108	RLC Timepoint Received_msec
4109	RLC Timepoint Sent_msec	4109	RLC Timepoint Sent_msec
4201	Originating Remote SIP Host (Release 9 and later)	4201	Originating Remote SIP Host (Release 9 and later)
4202	Originating Local SIP Host (Release 9 and later)	4202	Originating Local SIP Host (Release 9 and later)
4203	SIP Call ID (Release 9 and later)	4203	SIP Call ID (Release 9 and later)
4204	Source IP Address (Release 9.4(1) and later)	4204	Source IP Address (Release 9.4(1) and later)
4205	Ingress Media Device Address (Release 9.4(1) and later)	4205	Ingress Media Device Address (Release 9.4(1) and later)
4206	Egress Media Device Address (Release 9.4(1) and later)	4206	Egress Media Device Address (Release 9.4(1) and later)
4207	Initial Codec (Release 9.4(1) and later)	4207	Initial Codec (Release 9.4(1) and later)
4208	Final Codec (Release 9.4(1) and later)	4208	Final Codec (Release 9.4(1) and later)
4209	Ingress Media Device Port (Release 9.4(1) and later)	4209	Ingress Media Device Port (Release 9.4(1) and later)
4210	Egress Media Device Port (Release 9.4(1) and later)	4210	Egress Media Device Port (Release 9.4(1) and later)
4211	Originating VPN ID (Release 9.4(1) and later)	4211	Originating VPN ID (Release 9.4(1) and later)
4212	Terminating VPN ID (Release 9.4(1) and later)	4212	Terminating VPN ID (Release 9.4(1) and later)
4213	Meter Pulses Received (Release 9.5(2) and later)	4213	Meter Pulses Received (Release 9.5(2) and later)
4214	Meter Pulses Sent (Release 9.5(2) and later)	4214	Meter Pulses Sent (Release 9.5(2) and later)
4215	Charge Tariff Info (Release 9.5(2) and later)	4215	Charge Tariff Info (Release 9.5(2) and later)
4216	Advice of Charge Indicator (Release 9.5(2) and later)	4216	Advice of Charge Indicator (Release 9.5(2) and later)
4217	Short Call Indicator (Release 9.5(2) and later)	4217	Short Call Indicator (Release 9.5(2) and later)

Table 1-19 End of Call CDB Record (continued)

ANSI		ITU	
Tag Value	Description	Tag Value	Description
4218	Charge Limit Exceeded (Release 9.5(2) and later)	4218	Charge Limit Exceeded (Release 9.5(2) and later)
4219	Call Recovered Indication (Release 9.5(2) and later)	4219	Call Recovered Indication (Release 9.5(2) and later)
4220	Partial Calling Line Identity (Release 9.5(2) and later)	4220	Partial Calling Line Identity (Release 9.5(2) and later)
4221	Service Activation (Added in Release 9.5(2), modified in Release 9.6(1))	4221	Service Activation (Added in Release 9.5(2), modified in Release 9.6(1))
4222	PRI AOC Invoke Type (Release 9.5(2) and later)	4222	PRI AOC Invoke Type (Release 9.5(2) and later)
4223	PRI AOC – S Charge Information (Release 9.5(2) and later)	4223	PRI AOC – S Charge Information (Release 9.5(2) and later)
4224	PRI AOC – D Charge Information (Release 9.5(2) and later)	4224	PRI AOC – D Charge Information (Release 9.5(2) and later)
4225	PRI AOC – E Charge Information (Release 9.5(2) and later)	4225	PRI AOC – E Charge Information (Release 9.5(2) and later)
4226	PRI AOC Invoke Failure (Release 9.5(2) and later)	4226	PRI AOC Invoke Failure (Release 9.5(2) and later)
4227	Route Optimization/Path Replacement Action (Release 9.6(1) and later)	4227	Route Optimization/Path Replacement Action (Release 9.6(1) and later)
4228	Route Optimization / Path Replacement Call Reference of Associated Call Instance (Release 9.6(1) and later)	4228	Route Optimization / Path Replacement Call Reference of Associated Call Instance (Release 9.6(1) and later)
4229	Route Optimization / Path Replacement Trunk Group Info (Release 9.6(1) and later)	4229	Route Optimization / Path Replacement Trunk Group Info (Release 9.6(1) and later)
4230	Route Optimization / Path Replacement Channel Info (Release 9.6(1) and later)	4230	Route Optimization / Path Replacement Channel Info (Release 9.6(1) and later)
4231	Route Optimization Switchover Timestamp (Release 9.6(1) and later)	4231	Route Optimization Switchover Timestamp (Release 9.6(1) and later)
4232	Rejecting Location Label (Release 9.6(1) and later)	4232	Rejecting Location Label (Release 9.6(1) and later)
4233	Rejecting Location Label Direction (Release 9.6(1) and later)	4233	Rejecting Location Label Direction (Release 9.6(1) and later)
4236	H323 Destination (Release 9.7 and later)	4236	H323 Destination (Release 9.7 and later)
4237	Ingress Redirecting Number (Release 9.5(2) and later)	4237	Ingress Redirecting Number (Release 9.5(2) and later)
4239	Service Usage Data (Release 9.7 and later)	4239	Service Usage Data (Release 9.7 and later)

Table 1-19 End of Call CDB Record (continued)

ANSI		ITU	
Tag Value	Description	Tag Value	Description
4240	CNAM DIP (Release 9.7 and later)	4240	CNAM DIP (Release 9.7 and later)
4241	Calling Name (Release 9.7 and later)	4241	Calling Name (Release 9.7 and later)
4242	Terminating Remote SIP Host (Release 9.7 and later)	4242	Terminating Remote SIP Host (Release 9.7 and later)
4243	Terminating Local SIP Host (Release 9.7 and later)	4243	Terminating Local SIP Host (Release 9.7 and later)
4244	License Rejecting Reason (Release 9.7 and later)	4244	License Rejecting Reason (Release 9.7 and later)
4245	License Rejecting Direction (Release 9.7 and later)	4245	License Rejecting Direction (Release 9.7 and later)
4246	SIP Transport	4246	SIP Transport (Release 9.7 and later)
4247	SIP Routing URI Source	4247	SIP Routing URI Source (Release 9.7 and later)
4248	SIP Routing URI	4248	SIP Routing URI (Release 9.7 and later)
5000	Unique Call ID (Release 9 and later)	5000	Unique Call ID (Release 9 and later)
6005	Interim CDB (Release 9.5(2) and later)	6005	Interim CDB (Release 9.5(2) and later)

Slave End-of-Call CDB Record (Tag: 1210/Release 9.6 or Later)

Table 1-20 lists data about the Slave End-of-Call CDB type. This CDB is defined to be used at the end-of-call for a non-controlling half-call instance. Only end-of -call summary style CDBs are issued for slave half-call instances and the appropriate information is check-pointed to ensure the data is successfully written in the event of a switchover occurring. This CDB is disabled by default on your Cisco PGW 2200.

Note If you do enable this CDB and your network includes a Cisco BAMS, you must provision the Cisco BAMS to ignore this CDB.

Table 1-20 Slave End-of-Call CDB Record

Field Name	Tag Value	Comments
MGC Generic Tags		
Call Reference ID	4002	
IAM Timepoint	4003	
REL Timepoint	4006	
Originating Trunk Group	4008	

Table 1-20 Slave End-of-Call CDB Record (continued)

Field Name	Tag Value	Comments
Originating Member	4009	
Terminating Trunk Group	4015	
Terminating Member	4016	
RO/PR Executed	4227	Added in Release 9.6(1)
RO/PR Other Call Ref	4228	Added in Release 9.6(1)
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

Slave Long Duration Call CDB Record (Tag: 1260/Release 9.6 or Later)

Table 1-21 lists data about the Slave Long Duration Call CDB type. This CDB is used when the call instance remains active beyond a pre-configured time. The long call duration timer of the slave call is the same as that of "master" call which is configured in XECfgParm.dat.

Table 1-21 Slave Long Duration Call CDB Record

Field Name	Tag Value	Comments
MGC Generic Tags		
Call Reference ID	4002	
IAM Timepoint	4003	
Originating Trunk Group	4008	
Originating Member	4009	
Terminating Trunk Group	4015	
Terminating Member	4016	
RO/PR Executed	4227	Added in Release 9.6(1)
RO/PR Other Call Ref	4228	Added in Release 9.6(1)
Cisco Reserved Tags		
Unique Call ID (Release 9 and later)	5000	

CDE Detail Description

A call data element (CDE) is a field within the CDB that contains basic information about a billing record. Examples of CDEs are the calling number and the called number.

The CDEs are described in the CDE description form template as shown in Table 1-22. CDE description forms for each of the CDBs listed near the bottom in Table 1-22 are included in Table 1-23 through Table 1-213.

Table 1-22 CDE Description Form Template

Name: Name of the call data element	**Tag:** Its tag value	**Source:** MGC subsystem that generates the CDE value
Description/Purpose: Brief description of the CDE		
Format: The format of the CDE value	**Length:** CDE value length	
Data Value: Range of CDE values, or valid values		
Extended Data Value: This section includes CDE values that are extended (from the ANSI/ITU standard) by the Cisco MGC.		
General Information: General information about the CDE and comments.		
MGC Release: The Cisco MGC release(s) supporting this CDE		

CDEs Encoded in ANSI

Calling Party Category (Tag: 2000/ANSI)

Table 1-23 Calling Party Category Description Form

Name: Calling Party Category	**Tag:** 2000	**Source:** MDL
Description/Purpose: Indicates what type of calling party is placing the call.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: The following codes are used in the calling party category (CPC) parameter field: 00000000 Calling party's category unknown (default) 00000001Operator, language French 00000010Operator, language English 00000011Operator, language German 00000100Operator, language Russian 00000101Operator, language Spanish 00000110| 00000111|-> Available to admin. For selecting a particular language. 00001000| 00001001Reserved 00001010Ordinary calling subscriber 00001011Ordinary calling subscriber with priority 00001100Data call 00000001Operator, language French 00001101Test call 00001110Spare 00001111Pay phone 00010000 toCCITT spare 11011111 11100000Emergency service call 11100001High priority emergency service call 11100010National security and emergency 11100011 toANSI spare 11110111 11110000 toNetwork-specific use 11111110 11111111Reserved		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

User Service Information (Tag: 2001/ANSI)

Table 1-24 User Service Information Description Form

Name: User Service Information	**Tag:** 2001	**Source:** MDL
Description/Purpose: This parameter is used to send the data transmission parameters to the distant exchange. The field format is the same as the format for the bearer capability information element from ANSI standard T1.607.		
Format: ANSI T1.113	**Length in Octets:** 2 to 13	
Data Value: For more detail, please refer to ANSI T1.113. Extension: octet continues through the next octet, 1 last octet Coding standard: the setting should be 00 for CCITT standard, 10 for national Information Transfer Capability. For POTS calling, this field is set at one of the following: 00000 Speech 01000 Unrestricted digital information 01001 Restricted digital information 10000 3.1 kHz audio 10001 Unrestricted digital information with tone and announcements Transfer Mode (octet 2) 00 Circuit mode 10 Packet mode 7.3 Information Transfer Rate 00000 Packet mode only 10000 64 kb 00011 384 kb 10100 1472 kb 10101 1536 kb 10111 1920 kb 11000 Multi-rate Structure, Configuration, Establishment, and so on: please refer to T1.113		
Extended Data Value: No extended value.		
General Information:		

Originating Line Information (Tag: 2002/ANSI)

Table 1-25 Originating Line Information Description Form

Name: Originating Line Information	**Tag:** 2002	**Source:** MDL
Description/Purpose: This information is captured from the originating line information parameter.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 00000000 to 01100011 Binary equivalent of the digits 01100100 to 11111111 Reserved		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Calling Number Nature of Address (Tag: 2003/ANSI)

Table 1-26 Calling Number Nature of Address Description Form

Name: Calling Number Nature of Address	**Tag:** 2003	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC how the number was delivered. It indicates the calling party type of address. In POTS calling, two values are usually used: unique national number and nonunique national number.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 111010 0 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Charged Number Nature of Address (Tag: 2004/ANSI)

Table 1-27 Charged Number Nature of Address Description Form

Name: Charged Number Nature of Address	**Tag:** 2004	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC how the number was delivered.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 111010 0 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Dialed Number Nature of Address (Tag: 2005/ANSI)

Table 1-28 Dialed Number Nature of Address Description Form

Name: Dialed Number Nature of Address	**Tag:** 2005	**Source:** MDL
Description/Purpose: Allows the Call Process to route a call differently based on the Nature of Address (NOA) value provided in the IAM called number parameter. This tag represents the external (for example, line) value of NOA for the called part number.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000 Spare - If the LEC doesn't know what type of line the calling party is, it will send this value to the Cisco MGC. The Cisco MGC does not alter this value and does not do anything as far as billing with this field. 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 111010 0 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

LRN Nature of Address (Tag: 2006/ANSI)

Table 1-29 LRN Nature of Address Description Form

Name: LRN Nature of Address	**Tag:** 2006	**Source:** MDL
Description/Purpose: Stores the NOA of LRN from an INAP query.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000Spare 0000001Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001Nonunique subscriber number 1110010Spare 1110011Nonunique national number 111010 0Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Called Number Nature of Address (Tag: 2007/ANSI)

Table 1-30 Called Number Nature of Address Description Form

Name: Called Number Nature of Address	**Tag:** 2007	**Source:** MDL
Description/Purpose: The tag contains the Nature of Address (NOA) value from the egress protocol message used in the outbound IAM. The NOA value in this tag is from the ingress protocol message. If no B number NOA is available (redirected to an unknown number) but an original called number Information Element (IE) is available in the protocol message, then the NOA from the IE is logged, and this can be modified for number normalization.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000 Spare - If the LEC doesn't know what type of line the calling party is, it will send this value to the Cisco MGC. The Cisco MGC does not alter this value and does not do anything as far as billing with this field. 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 111010 0 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Reason Code (Tag: 2008/ANSI)

Table 1-31 Reason Code Description Form

Name: Reason Code	**Tag:** 2008	**Source:** MDL
Description/Purpose: Incorporates SS7 release with cause values and any additional reasons that the basic call model determines.		
Format: ANSI T1.113	**Length in Octets:** 2	
Data Value: The value of this field includes the first two octets of the cause indicators. Please refer to the ANSI T1.113 specification. (No diagnostic information included.)		
Extended Data Value: **Note** Tag 2008 extends ANSI definition by adding COT failure indicators according to ANSI rules, with slight modification as follows: Octet 1: Extension 0 Coding Standard 11 Spare 0 Location 0011 Octet 2: Extension 1 Cause 1111110		
General Information:		
MGC Release: Release 5.0 and later.		

Forward Call Indicators Received (Tag: 2009/ANSI)

Table 1-32 Forward Call Indicators Received Description Form

Name: Forward Call Indicators Received	**Tag:** 2009	**Source:** MDL
Description/Purpose: This is for the received Forward Call Indicator parameter in ISUP message. It includes the following fields: International Call Ind.; End To End Method Ind.; Interworking Ind.; IAM Segmentation Ind.; ISDN User Part Ind.; ISDN User Part Preference Ind.; ISDN Access Ind.; and SCCP Method Ind.		
Format: ANSI T1.113	**Length in Octets:** 2	
Data Value: National/International call indicator Bit A—For POTS calling, Bit A should be coded as a 0, signifying that this is an incoming national call. A coding of 1 signifies that the call is an incoming international call. End-to-end method indicator Bits CB: 00 No end-to-end method available. 01 Pass along method available. 10 SCCP method available. 11 Both Pass along and SCCP methods available. Interworking indicator Bit D—This field indicates to the Cisco MGC if any interworking has been encountered in the type of signaling for this call. No pertinent information needs to be acted upon by the Cisco MGC; it should pass the information to the destination. “0” means no interworking was encountered (SS7 all the way). “1” means interworking was encountered. IAM Segmentation indicator Bit E—In POTS calling, this segmentation indicator is marked with a 0. ISDN User Part indicator Bit F, HG, I: This is a more granular field for use by the ISUP. In the United States, the ISUP is used exclusively. For POTS national numbers, this field is marked 1 for ISUP used all the way. That is, if the Interworking indicator is set at 0 there was no interworking. If the incoming call has a 0 in this field, there was interworking or the incoming international call could have used TUP for signaling before reaching the national network. The Cisco MGC should not have to deal with this bit; it should pass it on to the destination. For more details, please refer to the ANSI T1.113 specification.		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Forward Call Indicators Sent (Tag: 2010/ANSI)

Table 1-33 Forward Call Indicators Sent Description Form

Name: Forward Call Indicators Sent	**Tag:** 2010	**Source:** MDL
Description/Purpose: This is for the sent Forward Call Indicator parameter in ISUP message. It includes the following fields: International Call Ind.; End To End Method Ind.; Interworking Ind.; IAM Segmentation Ind.; ISDN User Part Ind.; ISDN User Part Preference Ind.; ISDN Access Ind.; and SCCP Method Ind.		
Format: ANSI T1.113	**Length in Octets:** 2	
Data Value: National/International call indicator Bit A—For POTS calling, Bit A should be coded as a 0, signifying that this is an incoming national call. A coding of 1 signifies that the call is an incoming international call. End-to-end method indicator Bits CB 00 No end to end method available. 01 Pass along method available. 10 SCCP method available. 11Both Pass along and SCCP methods available. Interworking indicator Bit D—This field indicates to the Cisco MGC if any interworking has been encountered in the type of signaling for this call. No pertinent information needs to be acted upon by the Cisco MGC; it should just pass the information to the destination. “0” means no interworking encountered (SS7 all the way). “1” means interworking was encountered. IAM Segmentation indicator Bit E—In POTS calling, this segmentation indicator is marked with a 0. ISDN User Part indicator Bit F, HG, I—This is a more granular field for use by the ISUP. In the United States, the ISUP is used exclusively. For POTS national numbers, this field is marked 1 for ISUP used all the way. That is, if the Interworking indicator is set at 0, there was no interworking. If the incoming call has a 0 in this field, there was interworking or the incoming international call could have used TUP for signaling before reaching the national network. The Cisco MGC should not have to deal with this bit; it passes it on to the destination. For more details, please refer to the ANSI T1.113 specification.		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Nature of Connection Indicators Received (Tag: 2011/ANSI)

Table 1-34 Nature of Connection Indicators Received Description Form

Name: Nature of Connection Indicators Received	**Tag:** 2011	**Source:** MDL
Description/Purpose: Used to record the Nature of Connection received from the IAM. Three possible indicators can be received: the satellite indicator, the continuity check indicator, and the echo suppressor indicator.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: Assume bit order HGFEDCBA Satellite Indicator (Bits BA)—This field provides the Cisco MGC with information on how many satellites have been used on this circuit. If the field is set to 00 and the Cisco MGC sends the circuit out on a circuit going over a satellite, the field is incremented by one. The same goes for the other incoming settings (for example, 01 goes to 10 and 10 goes to 11). If the outgoing circuit doesn't go over a satellite, the field is not incremented. Continuity check indicator (Bits DC)—The Cisco MGC acts upon this field based on what is received. Also depending on mutual agreements with the LECs, each outgoing trunk group sends Continuity tones to the terminating LECs with a frequency between 0% to 100% of the time. This is configurable on a per trunk group basis. In addition, the Cisco MGC interprets the incoming continuity field and passes the appropriate action to the Coding Unit. Echo suppressor indicator (Bit E)—If this field is filled, the outgoing half echo control is already set on previous circuits, there is no need for the terminating Cisco MGC to engage the EC. for this call. If the Cisco MGC activates the echo canceller, this field needs to be set for the outgoing IAM message to subsequent switches. Bits F-G: spare		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Nature of Connection Indicators Sent (Tag: 2012/ANSI)

Table 1-35 Nature of Connection Indicators Sent Description Form

Name: Nature of Connection Indicators Sent	**Tag:** 2012	**Source:** MDL
Description/Purpose: Used to record the Nature of Connection sent. Three possible indicators can be sent: the satellite indicator, the continuity check indicator, and the echo suppressor indicator.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: Assume bit order HGFEDCBA Satellite Indicator (Bits BA)—This field provides the Cisco MGC with information on how many satellites have been used on this circuit. If the field is set to 00 and the Cisco MGC sends the circuit out on a circuit going over a satellite, the field is incremented by one. The same goes for the other incoming settings (for example, 01 goes to 10 and 10 goes to 11). If the outgoing circuit doesn't go over a satellite, the field is not incremented. Continuity check indicator (Bits DC)—The Cisco MGC acts upon this field based on what is received. Also depending on mutual agreements with the LECs, each outgoing trunk group sends Continuity tones to the terminating LECs with a frequency between 0% to 100% of the time. This is configurable on a per trunk group basis. In addition, the Cisco MGC interprets the incoming continuity field and passes the appropriate action to the Coding Unit. Echo suppressor indicator (Bit E)—If this field is filled, the outgoing half echo control is already set on previous circuits, there is no need for the terminating Cisco MGC to engage the EC. for this call. If the Cisco MGC activates the echo canceller, this field needs to be set for the outgoing IAM message to subsequent switches. Bits F-G: spare		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Transit Network Selection (Tag: 2013/ANSI)

Table 1-36 Transit Network Selection Description Form

Name: Transit Network Selection	**Tag:** 2013	**Source:** MDL
Description/Purpose: Includes Type of Network, Network Identification Plan, Digits, and Circuit Code.		
Format: ANSI T1.113	**Length in Octets:** 4	

Data Value:

Network Identification Plan—The Network ID plan field indicates to the Cisco MGC what type of ID the parameter has. Since POTS calling uses the National Network Plan, there are two values that pertain to the Cisco MGC: 3-digit CIC and 4-digit CAC.

National Network ID:

0000 Unknown
00104 Digit Carrier Identification Code—If this value is used, the layout of the parameter is the second figure.

0011
to Spare
0111
1000
to Reserved for network specific use
1111

Type of Network Identification—This field holds the type of network identification for the transit network parameter.

000 CCITT
010 National Network ID

Spare bit

Digits 1, 2, 3 or Digits 1, 2, 3, 4—These fields hold the Carrier Identification Code of the international transit carrier that is required.

Circuit Code—The circuit code field indicates to the carrier how the call was dialed. The following values are found in this field:

0000 Unknown
0001 International call, no operator
0010 International call, operator requested

Extended Data Value:
General Information:
MGC Release: Release 5.0 and later.

Carrier Identification Parameter (Tag: 2014/ANSI)

Table 1-37 Carrier Identification Parameter Description Form

Name: Carrier Identification Parameter	**Tag:** 2014	**Source:** MDL
Description/Purpose: This is for the Carrier Identification Parameter in ISUP message. It includes the following fields: Network Identification Plan; Type of Network Identification; Spare; Digit 1; Digit 2; Digit 3; Digit 4 or Null.		
Format: ANSI T1.113	**Length in Octets:** 3 or 4	
Data Value: Network Identification Plan (1st Octet, Bits 4321)—Indicates what type of Carrier Identification the caller is requesting. The Cisco MGC looks at this field to determine whether the requested CIC is a 3 digit or 4 digit code and how many digits to expect in the Digits field. Type of Network Identification(1st Octet, Bits 765)—Gives the identification of the network numbering plan. For POTS calls from the LECs, the value of this field is 010 (National Network ID). Spare(1st Octet, Bits 8)—Not applicable Digit 1-3 or 1-4 (remaining two octets, Bits 8765 are all zeros if only 3 digits present)—Requested CIC		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Carrier Selection Parameter (Tag: 2015/ANSI)

Table 1-38 Carrier Selection Parameter Description Form

Name: Carrier Selection Parameter	**Tag:** 2015	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC how the caller dialed. This parameter can be used to determine how the call will be routed. The parameter indicates to the Cisco MGC how the Carrier Access Code was dialed. With this information and the Carrier Identification parameter, the Cisco MGC can route the call in a more granular fashion.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 00000000 No indication 00000001 Selected Carrier Identification Code presubscribed and not input by calling party 00000010 Selected Carrier Identification Code presubscribed and input by calling party 00000011 Selected Carrier Identification Code presubscribed; but no indication of whether input by calling party 00000100 Selected Carrier Identification Code not presubscribed and input by calling party 00000101 to Spare 11111110 11111111 Reserved		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Jurisdiction Information Parameter (Tag: 2016/ANSI)

Table 1-39 Jurisdiction Information Parameter Description Form

Name: Jurisdiction Information Parameter	**Tag:** 2016	**Source:** MDL
Description/Purpose: This parameter provides numerical data indicating the geographic origination of the call.		
Format: IA5	**Length in Octets:** 6	
Data Value: Digits from Jurisdiction Information Parameter.		
Extended Data Value:		
General Information:		
MGC Release: Release 5.0 and later.		

Redirecting Number Nature of Address (Tag 2017/ANSI)

Table 1-40 Redirecting Number Nature of Address Description Form

Name: Called Number Nature of Address	**Tag:** 2017	**Source:** MDL
Description/Purpose: NOA of Redirecting Number.		
Format: ANSI T1.113	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 111010 0 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.4.		

Egress Calling Number Nature of Address (Tag 2018/ANSI)

Table 1-41 Egress Calling Number Nature of Address Description Form

Name: Egress Calling Number NOA	**Tag:** 2018	**Source:** MDL
Description/Purpose: This CDE records the calling party NOA sent in the outgoing message by the MGC. This field indicates the address type of the calling party. In POTS calling, there are usually two values that are used. They are Unique National Number and Non-unique National Number.		
Format: ANSI T1.113	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 1110100 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

Egress Redirecting Number Nature of Address (Tag 2019/ANSI)

Table 1-42 Egress Redirecting Number Nature of Address Description Form

Name: Egress Redirecting Number NOA	**Tag:** 2019	**Source:** MDL
Description/Purpose: This CDE records the redirecting calling number NOA sent in the outgoing message by the MGC.		
Format: ANSI T1.113	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 1110100 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

Egress Original Called Number Nature of Address (Tag 2020/ANSI)

Table 1-43 Egress Calling Number Nature of Address Description Form

Name: Egress Original Called Number NOA	**Tag:** 2020	**Source:** MDL
Description/Purpose: This CDE records the original called party NOA sent in the outgoing message by the MGC.		
Format: ANSI T1.113	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Unique subscriber number 0000010 Spare (national use) 0000011 Unique national number 0000100 Unique international number 0000101 to Spare 1110000 1110001 Nonunique subscriber number 1110010 Spare 1110011 Nonunique national number 1110100 Nonunique international number 1110101 Spare 1110110 Spare 1110111 Test line 1111000 to Reserved 1111000 1111111 Spare		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

CDE Encoded as ITU Recommendation

Calling Party Category (Tag: 3000/ITU)

Table 1-44 Calling Party Category Description Form

Name: Calling Party Category	**Tag:** 3000	**Source:** MDL
Description/Purpose: Indicates what type of calling party is placing the call.		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value: 00000000 Calling party's category is unknown (national use). 00000001 Operator, language French 00000010Operator, language English 00000011Operator, language German 00000100Operator, language Russian 00000101Operator, language Spanish 00000110 toAvailable to Administrations for selecting a particular language by mutual agreement 00001000 00001001 Reserved (Refer to Recommendation Q.104) Can be used in national networks to indicate that the calling party is a national operator 00001010Ordinary calling subscriber 00001011Calling subscriber with priority 00001100Data call (voice band data) 00001101Test call 00001110Spare 00001111Payphone 00010000 toSpare 11011111 11100000 to Reserved for national use 11111110 11111111Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

User Service Information (Tag: 3001/ITU)

Table 1-45 User Service Information Description Form

Name: User Service Information	**Tag:** 3001	**Source:** MDL
Description/Purpose: Captures the User Service Information parameter of ITU-T ISUP.		
Format: ITU-T Q.763	**Length in Octets:** 2 to 13	

Data Value:

	8	7	6	5	4	3	2	1
1	Ext.	Coding Standard		Information Transfer Capability				
2	Ext.	Transfer Mode		Information Transfer Rate				
2a	Rate multiplier							
3	Ext.	Layer identity		User information Layer 1 protocol				
4	Ext.	Layer identity		User information Layer 2 protocol				
5	Ext.	Layer identity		User information Layer 3 protocol				

Notes:

1 Octet 2a is required if octet 2 indicates multirate (64 kbps base rate); otherwise it shall not be present.
2 Octets 3, 4, 5 or any combination of these octets may be omitted. Octet 3 may be extended as described in Table 4-6/Q.931

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

For French TUP, the following values apply:

	8	7	6	5	4	3	2	1
1	Ext.	Coding Standard (00)		Information Transfer Capability (Mapped from OptaddRoutingInf) Supported Values: 01 Speech 10 3.1 kHz 11 64 kbps				
2	Ext.	Transfer Mode (00)		Information Transfer Rate (10000)				

Extended Data Value: No extended value.

General Information:

MGC Release: Release 7.0 and later.

Originating Line Information (Tag: 3002/ITU) Retired

Table 1-46 Originating Line Information Description Form

Name: Originating Line Information	**Tag:** 3002	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC what II digits are being sent from the LEC. This differentiates calls based on the II digits.		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value:		
Extended Data Value: No extended value.		
General Information: For more information on II digits, refer to the Telecordia Local Exchange Routing Guide.		
MGC Release: Release 7.0 and later.		
Note: This tag was retired in Release 7.4. It is no longer associated with any CDBs.		

Calling Number Nature of Address (Tag: 3003/ITU)

Table 1-47 Calling Number Nature of Address Description Form

Name: Calling Number Nature of Address	**Tag:** 3003	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC how the number was delivered. This field indicates the address type of the calling party. In POTS calling, there are usually two values that are used: Unique national number and Nonunique national number.		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Charged Number Nature of Address (Tag: 3004/ITU) Retired

Table 1-48 Charged Number Nature of Address Description Form

Name: Charged Number Nature of Address	**Tag:** 3004	**Source:** MDL
Description/Purpose: Indicates the address type of the calling party. In POTS calling, the value is typically Unique National Number or Non-Unique National Number		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later. Retired in Release 9.1(2).		

Dialed Number Nature of Address (Tag: 3005)

Table 1-49 Dialed Number Nature of Address Description Form

Name: Dialed Number Nature of Address	**Tag:** 3005	**Source:** MDL
Description/Purpose: This value allows the Call Process to route a call differently based on the Nature of Address value provided in the IAM Called Number parameter.		
Format: ANSI T1.113	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

LRN Nature of Address (Tag: 3006/ITU)

Table 1-50 LRN Nature of Address Description Form

Name: LRN Nature of Address	**Tag:** 3006	**Source:** MDL
Description/Purpose: Stores the NOA of LRN from an INAP query.		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Called Number Nature of Address (Tag: 3007/ITU)

Table 1-51 Called Number Nature of Address Description Form

Name: Called Number Nature of Address	**Tag:** 3007	**Source:** MDL
Description/Purpose: The tag contains the Nature of Address (NOA) value from the egress protocol message used in the outbound IAM.The NOA value in this tag is from the ingress protocol message. If no B number NOA is available (redirected to an unknown number) but an original called number Information Element (IE) is available in the protocol message, then the NOA from the IE is logged, and this can be modified for number normalization.		
Format: ITU-T Q.763	**Length in Octets:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information: The value may be modified during the call because of IN actions (for example, LNP).		
MGC Release: Release 7.0 and later.		

Reason Code (Tag: 3008/ITU)

Table 1-52 Reason Code Description Form

Name: Reason Code	**Tag:** 3008	**Source:** MDL
Description/Purpose: Incorporates C7 release with cause values and any additional reasons that the basic call model determines.		
Format: based on ITU-T Q.850	**Length in Octets:** 2	

Data Value:

Format:

	8	7	6	5	4	3	2	1
1	Ext.	Coding Standard		Spare	Location			
2	Ext.	Cause value						

Note: This CDE does not include the Diagnostic and Recommendation octets defined in Q.850. The format of this CDR is the same for both Q.763 and Q.931 signaling.

Extension:

0 Octet continues through the next octet (for example, octet 1 to 1a)
1 Last octet

Coding Standard

00 ITU-T standardized coding
01 ISO/IEC standard
10 National standard
11 Standard specific to identified location

Note: The coding standards other than ITU-T should only be used when the desired cause value cannot be represented with the ITU-T standardized codeing.

Location:

0000 User (U)
0001 Private network serving the local user (LPN)
0010 Public network serving the local user (LN)
0011 Transit network (TN)
0100 Public network serving the remote user (RLN)
0101 Private network serving the remote user (RPN)
0111 International network (INTL)
1010 Network beyond interworking point (BI)
1100
to Reserved for National use
1111

All other values are spare.

Table 1-52 Reason Code Description Form (continued)

Cause value: (only applicable in the context of Recommendations Q.763 and Q.931)

The cause value is divided into two fields, a class (bits 5 through 7) and a value within the class (bits 1 through 4).

The class indicates the general nature of the event. The valid values are as follows:

000 Normal event
001 Normal event
010 Resource unavailable
011 Service or option not available
100 Service or option not implemented
101 Invalid message (for example, parameter out of range)
110 Protocol error (for example, unknown message)
111 Interworking

The valid class values are listed in Table 1-53.

Extended Data Value:

Note Tag 3008 extends ANSI definition by adding COT failure indicators according to ANSI rules, with slight modification as follows:

Octet 1:

Extension 0
Coding Standard 11
Spare 0
Location 0011

Octet 2:

Extension 1
Cause 1111110

General Information:

MGC Release: Release 7.0 and later.

The following table lists the Cause information element or parameter definitions for this tag.

Table 1-53 Cause Information Element/Parameter Definitions

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
000/0001/1	Unallocated (unassigned) number—indicates that the called party cannot be reached because, although the called party number is in a valid format, it is not currently allocated (assigned)	DSS 1, ISUP	Q.931	U, RPN, LN	
				RLN, TN, INTL	No route by digit analysis

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
000/0010/2	No route to specified transit network (national use)—indicates that the equipment sending this cause has received a request to route the call through a particular transit network which it does not recognize. The equipment sending this cause does not recognize the transit network either because the transit network does not exist or because that particular transit network, while it does exist, does not serve the equipment which is sending this cause. This cause is supported on a network-dependent basis.	DSS 1, ISUP(NU)	Q.931	LN, TN	
000/0010/3	No route to destination—indicates that the called party cannot be reached because the network through which the call has been routed does not serve the destination desired. This cause is supported on a network-dependent basis.	DSS 1, ISUP	Q.931	U, RPN, LN	
000/0100/4	Send special information tone— indicates that the called party cannot be reached for reasons that are of a long term nature and that the special information tone should be returned to the calling party.	ISUP			Clause 7/Q.35
000/0101/5	Misdialled trunk prefix (national use)—indicates the erroneous inclusion of a trunk prefix in the called party number.	ISUP(NU)			
000/0110/6	Channel unacceptable—indicates that the channel most recently identified is not acceptable to the sending entity for use in this call.	DSS 1	Q.931	LN	
000/0111/7	Call awarded and being delivered in an established channel—indicates that the user has been awarded the incoming call, and that the incoming call is being connected to a channel already established to that user for similar calls (for example, packet-mode X.25 virtual calls).	DSS 1	Q.931	LN	
000/1000/8	Preemption—indicates that the call is being pre-empted.	DSS 1, ISUP	Q.735.3 Q.955.3		MLPP
000/1001/9	Preemption – circuit reserved for reuse—indicates that the call is being pre-empted and the circuit is reserved for reuse by the pre-empting exchange.	ISUP	Q.735.3		MLPP

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
000/1110/14	QoR:ported number—indicates that an exchange detected that the called number was ported out (see Annex C/Q.769.1)	ISUP	Q.769.1	LN	
001/0000/16	Normal call clearing—indicates that the call is being cleared because one of the users involved in the call has requested that the call be cleared. Under normal situations, the source of this cause is not the network.	DSS 1, ISUP	Q.931, 2.3/Q.764	U, RPN	
001/0001/17	User busy— indicates that the called party is unable to accept another call because the user busy condition has been encountered. This cause value may be generated by the called user or by the network. In the case of user determine user busy, it is noted that the user equipment is compatible with the call.	DSS 1, ISUP	Q.931, Q.732, Q.733.3	U, RPN, RLN	Basic call and call diversion services
001/0010/18	No user responding—used when a called party does not respond to a call establishment message with either an alerting or connect indication within the prescribed period of time allocated.	DSS 1, ISUP	Q.931, Q.732	RLN	Call diversion services
001/0011/19	No answer from user (user alerted)—used when the called party has been alerted but does not respond with a connect indication within a prescribed period of time. **Note** This cause is not necessarily generated by Q.931 procedures but may be generated by internalnetwork timers.	DSS 1, ISUP	Q.931	RLN	
			2.1.4/Q.764, 2.9.8.3/ Q.764	RLN, TN, INTL	Expiry of waiting ANM timer (T9)
			Q.732	RLN	Call diversion services
001/0100/20	Subscriber absent—used when a mobile station has logged off, radio contact is not obtained with a mobile station or if a personal telecommunication user is temporarily not addressable at any user-network interface.	DSS 1, ISUP			Mobile application
001/0101/21	Call rejected—indicates that the equipment sending this cause does not wish to accept this call, although it could have accepted the call because the equipment sending this cause is neither busy nor incompatible. This cause may also be generated by the network, indicating that the call was cleared due to a supplementary service constraint..	DSS 1, ISUP	Q.931	U, RPN	
			Q.732	RLN	Call diversion services

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
001/0110/22	Number changed—returned to a calling party when the called party number indicated by the calling party is no longer assigned. The new called party number may optionally be included in the diagnostic field. If a network does not support this cause value, cause No. 1, Unallocated (unassigned) number, shall be used.	DSS 1, ISUP	Q.931	U, RPN, LN	
001/0111/23	Redirection to new destination—used by a general ISUP protocol mechanism that can be invoked by an exchange that decides that the call should be set-up to a different called number. Such an exchange can invoke a redirection mechanism, by use of this cause value, to request a preceding exchange involved in the call to route the call to the new number.	ISUP			
001/1000/24	Call rejected due to feature at the destination	DSS 1, ISUP		RLN	
001/1001/25	Exchange – routing error—indicates that the destination indicated by the user cannot be reached, because an intermediate exchange has released the call due to reaching a limit in executing the hop counter procedure. This cause is generated by an intermediate node, which when decrementing the hop counter value, gives the result 0.	ISUP		LN, TN, RLN, ITNL	
001/1010/26	Non-selected user clearing—indicates that the user has not been awarded the incoming call.	DSS 1	Q.931	LN	
001/1011/27	Destination out of order—indicates that the destination indicated by the user cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signaling message was unable to be delivered to the remote party; for example, a physical layer or data link layer failure at the remote party, or user equipment off-line.	DSS 1, ISUP	Q.931	RLN	

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
001/1100/28	Invalid number format (address incomplete)—indicates that the called party cannot be reached because the called party number is not in a valid format or is not complete. **Note** This condition may be determined immediately after reception of an end of pulsing (ST) signal, or on time-out after the last received digit.	DSS 1, ISUP	Q.931	U, RPN, RLN, LN	
			In Q.764, the following sections: 2.1.1, 2.1.2, 2.9.8.3, 2.2.5	TN, INTL	The called party number is not in a valid format or is not complete
			Annex A/ Q.763	TN, INTL, RLN, RPN	
001/1101/29	Facility rejected—returned when a supplementary service requested by the user cannot be provided by the network.	DSS 1, ISUP	Q.931	RLN, U, RPN, LN	
				TN, INTL	Inability to provide a request signaling capability
			Q.735.1	INTL, RLN	CUG
			Q.737.1	INTL, TN, RLN	UUS
001/1110/30	Response to STATUS ENQUIRY—included in the STATUS message when the reason for generating the STATUS message was the prior receipt of a STATUS ENQUIRY message.	DSS 1	Q.931	U, LN	

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
001/1111/31	Normal, unspecified—used to report a normal event only when no other cause in the normal class applies.	DSS 1, ISUP	Q.931	RLN	
			In Q.764, the following sections: 2.1.1, 2.1.2, 2.8.1, 2.8.2, 2.9.3, 2.9.6, 2.9.8.2, 2.9.8.3, 2.1.8, 2.2.4	TN, INTL, RLN	Call failure information indicating the failure of a call due to the lapse of a timeout or a fault not covered by specific causes (for example, expiry of timers Q.764 not covered by specific causes, release of interconnected circuit, etc.)
			2.1.6/Q.764 2.9.7/Q.764	RLN, TN	Expiry of waiting INF timer (T33)
			Annex A/ Q.763		
010/0010/34	No circuit/channel available—indicates that there is no appropriate circuit/channel presently available to handle the call.	DSS 1, ISUP	Q.931, Q.733.3	U, RPN, RLN, LN, TN	
				TN, INTL	Circuit congestion encountered in an exchange
010/0110/38	Network out of order—indicates that the network is not functioning correctly and that the condition is likely to last a relatively long period of time (for example, immediately re-attempting the call is not likely to be successful).	DSS 1, ISUP	Q.931	U. RPN	
010/0111/39	Permanent frame mode connection out of service—included in a STATUS message to indicate that a permanently established frame mode connection is out of service (for example, due to equipment or section failure) (see Annex A/Q.933).	DSS 1	Q.933		

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
010/1000/40	Permanent frame mode connection operational—included in a STATUS message to indicate that a permanently established frame mode connection is operational and capable of carrying user information (see Annex A/Q.933).	DSS 1	Q.933		
010/1001/41	Temporary failure—indicates that the network is not functioning correctly and that the condition is not likely to last a long period of time (for example, the user may wish to try another call attempt almost immediately).	DSS 1, ISUP	Q.931	U, RPN, RLN, LN	
010/1010/42	Switching equipment congestion—indicates that the switching equipment generating this cause is experiencing a period of high traffic.	DSS 1, ISUP		TN, RLN, INTL	
			2.9.9.1/ Q.764	TN, RLN	Temporary trunk block (national use)
010/1011/43	Access information discarded—indicates that the network could not deliver access information to the remote user as requested, that is, user-to-user information, low layer compatibility, high layer compatibility, or sub-address, as indicated in the diagnostic. It is noted that the particular type of access information discarded is optionally included in the diagnostic.	DSS 1, ISUP	Q.931	U, RPN, LN	
010/1100/44	Requested circuit/channel not available—returned when the circuit or channel indicated by the requesting entity cannot be provided by the other side of the interface.	DSS 1, ISUP	Q.931	U, RPN, LN	
010/1110/46	Precedence call blocked—indicates that there are no preemptable circuits or that the called user is busy with a call of equal or higher preemptable level.	DSS 1, ISUP	Q.735.3, Q.955.3		MLPP
010/1111/47	Resource unavailable, unspecified—used to report a resource unavailable event only when no other cause in the resource unavailable class applies.	DSS 1, ISUP	Q.931	U, RPN	
			Annex A/ Q.763		
011/0001/49	Quality of Service not available—used to report that the requested Quality of Service, as defined in Recommendation X.213, cannot be provided (for example, throughput or transit delay cannot be supported).	DSS 1	Q.931		

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
011/0010/50	Requested facility not subscribed—indicates that the user has requested a supplementary service which is implemented by the equipment which generated this cause, but which the user is not authorized to use.	DSS 1, ISUP	Q.931, Q.735	U, LN, RLN	
011/0101/53	Outgoing calls barred within CUG—indicates that although the calling party is a member of the CUG for the outgoing CUG call, outgoing calls are not allowed for this member of the CUG.	ISUP	Q.735.1		CUG
011/0111/55	Incoming calls barred within CUG—indicates that although the called party is a member of the CUG for the incoming CUG call, incoming calls are not allowed to this member of the CUG.	ISUP	Q.735.1	RLN	CUG
011/1001/57	Bearer capability not authorized—indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but the user is not authorized to use.	DSS 1, ISUP	Q.931	LN	
011/1010/58	Bearer capability not presently available—indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but which is not available at this time.	DSS 1, ISUP	Q.931	LN	
011/1110/62	Inconsistency in designated outgoing access information and subscriber class	DSS 1, ISUP	Q.735		
011/1111/63	Service or option not available, unspecified—used to report a service or option not available event only when no other cause in the service or option not available class applies.	DSS 1, ISUP	Q.931	LN	
			Annex A/ Q.763		
100/0001/65	Bearer capability not implemented—indicates that the equipment sending this cause does not support the bearer capability requested.	DSS 1, ISUP	Q.931	LN	
			Annex A/ Q.763	TN, INTL	Inability to provide requested TMR
100/0010/66	Channel type not implemented—indicates that the equipment sending this cause does not support the channel type requested.	DSS 1	Q.931		
100/0101/69	Requested facility not implemented—indicates that the equipment sending this cause does not support the requested supplementary service.	DSS 1, ISUP	Q.931, Q.737.1	U, RPN, LN, RLN	UUS

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
100/0110/70	Only restricted digital information bearer capability is available (national use)—indicates that the calling party has requested an unrestricted bearer service but that the equipment sending this cause only supports the restricted version of the requested bearer capability.	DSS 1, ISUP(NU)	Q.931		
100/1111/79	Service or option not implemented, unspecified—used to report a service or option not implemented event only when no other cause in the service or option not implemented class applies.	DSS 1, ISUP	Q.931		
			Annex A/ Q.763		
101/0001/81	Invalid call reference value—indicates that the equipment sending this cause has received a message with a call reference which is not currently in use on the user-network interface.	DSS 1	Q.931	U, LN	
101/0010/82	Identified channel does not exist—indicates that the equipment sending this cause has received a request to use a channel not activated on the interface for a call. For example, if a user has subscribed to those channels on a primary rate interface numbered from 1 to 12 and the user equipment or the network attempts to use channels 13 through 23, this cause is generated.	DSS 1	Q.931		
101/0011/83	A suspended call exists, but this call identity does not—indicates that a call resume has been attempted with a call identity which differs from that in use for any presently suspended call(s).	DSS 1	Q.931	LN	
101/0100/84	Call identity in use—indicates that the network has received a call suspended request containing a call identity (including the null call identity) which is already in use for a suspended call within the domain of interfaces over which the call might be resumed.	DSS 1	Q.931	LN	
101/0101/85	No call suspended—indicates that the network has received a call resume request containing a call identity information element which presently does not indicate any suspended call within the domain of interfaces over which calls may be resumed.	DSS 1	Q.931	LN	

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
101/0110/86	Call having the requested call identity has been cleared—indicates that the network has received a call resume request containing a call identity information element indicating a suspended call that has in the meantime been cleared while suspended (either by network timeout or by the remote user).	DSS 1	Q.931	LN	
101/0111/87	User not member of CUG—indicates that the called user for the incoming CUG call is not a member of the specified CUG or that the calling user is an ordinary subscriber calling a CUG subscriber.	ISUP, DSS 1	Q.735.1	RLN	CUG
101/1000/88	Incompatible destination—indicates that the equipment sending this cause has received a request to establish a call which has low layer compatibility, high layer compatibility, or other compatibility attributes (for example, data rate) which cannot be accommodated.	DSS 1, ISUP	Q.931	U, RPN	
		ISUP	Q.737.1	RLN	UUS 2
101/1010/90	Non-existent CUG	ISUP	Q.735		CUG
101/1011/91	Invalid transit network selection (national use)—indicates that a transit network identification was received which is of an incorrect format as defined in Annex C/ Q.931.	DSS 1, ISUP(NU)	Q.931	LN, TN	
101/1111/95	Invalid message, unspecified—used to report an invalid message event only when no other cause in the invalid message class applies.	DSS 1, ISUP	Q.931	LN	
			Annex A/ Q.763		
110/0000/96	Mandatory information element is missing—indicates that the equipment sending this cause has received a message which is missing an information element which must be present in the message before that message can be processed.	DSS 1	Q.931	U, LN	
110/0001/97	Message type non-existent or not implemented—indicates that the equipment sending this cause has received a message with a message type it does not recognize either because this is a message not defined or defined but not implemented by the equipment sending this cause.	DSS 1, ISUP	Q.931	U, LN	
			From Q.764, the following sections: 2.9.5.2, 2.9.5.3	TN, INTL, RLN	

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
110/0010/98	Message not compatible with call state or message type non-existent or not implemented—indicates that the equipment sending this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in the call state, or a STATUS message was received indicating an incompatible call state.	DSS 1	Q.931	U, LN	
110/0011/99	Information element/parameter non-existent or not implemented—indicates that the equipment sending this cause has received a message which includes information element(s)/parameter(s) not recognized because the information element identifier(s)/parameter name(s) are not defined or are defined but not implemented by the equipment sending the cause. This cause indicates that the information element(s)/ parameter(s) were discarded. However, the information element is not required to be present in the message in order for the equipment sending the cause to process the message.	DSS 1, ISUP	Q.931	U, LN	
			2.9.5.2/ Q.764, 2.9.5.3/ Q.764, Annex A/ Q.763	TN, INTL, RLN	
110/0100/100	Invalid information element contents—indicates that the equipment sending this cause has received an information element which it has implemented; however, one or more fields in the information element are coded in such a way which has not been implemented by the equipment sending this cause.	DSS 1	Q.931	U, LN	
110/0101/101	Message not compatible with call state—indicates that a message has been received which is incompatible with the call state.	DSS 1	Q.931	U, LN	

Table 1-53 Cause Information Element/Parameter Definitions (continued)

Cause Class/Value/No.	Definition	Application (Note 1)	Reference (Note 2)	Location (Note 3)	Remarks
110/0110/102	Recovery on timer expiry—indicates that a procedure has been initiated by the expiry of a timer in association with error handling procedures.	DSS 1, ISUP	Q.931		
			Q.733.4	RLN	Terminal portability: expiry of waiting RES (user) timer
			2.4.3/Q.764	INTL	Expiry of waiting RES (network) timer (incoming international exchange)
110/0111/103	Parameter non-existent or not implemented – passed on (national use)—indicates that the equipment sending this cause has received a message which includes parameters not recognized because the parameters are not defined or are defined but not implemented by the equipment sending the cause. The cause indicates that the parameter(s) were ignored. In addition, if the equipment sending this cause is an intermediate point, then this cause indicates that the parameter(s) were passed on unchanged.	ISUP(NU)			
110/1110/110	Message with unrecognized parameter discarded—indicates that the equipment sending this cause has discarded a received message which includes a parameter that is not recognized.	ISUP	2.9.5.2/ Q.764, 2.9.5.3/ Q.764		
110/1111/111	Protocol error, unspecified—used to report a protocol error event only when no other cause in the protocol error class applies.	DSS 1, ISUP	Q.931	RLN	
			Annex A/ Q.763	RLN, TN, INTL	
			Q.735.1	RLN	CUG
111/1111/127	Interworking, unspecified—indicates that there has been interworking with a network which does not provide causes for actions it takes. Thus, the precise cause for a message which is being sent cannot be ascertained.	DSS 1, ISUP	Q.931		
			Annex A/ Q.763		

Note 1: Application indicates that the cause value may be carried in DSS 1 and/or ISUP. Causes carried in ISUP which are not marked for national use (NU) are the minimum set of cause values that shall be supported over the international interface.

Note 2: The references included are not exhaustive.

Note 3: These are typical locations generated within the scope of the associated Recommendations. Other locations may be used depending upon the network configuration.

Forward Call Indicators Received (Tag: 3009/ITU)

Table 1-54 Forward Call Indicators Received Description Form

Name: Forward Call Indicators Received	**Tag:** 3009	**Source:** MDL
Description/Purpose: It is for the received Forward Call Indicator in ISUP message. It includes the following fields: International Call Ind.; End To End Method Ind.; Interworking Ind.; IAM Segmentation Ind.; ISDN User Part Ind.; ISDN User Part Preference Ind.; ISDN Access Ind.; SCCP Method Ind.		
Format: ITU-T Q.763	**Length in Octets:** 2	
Data Value:		

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

The following codes are used in the forward call indicators parameter field:

bit A:National/international call indicator
0Call to be treated as a national call
1Call to be treated as an international call

This bit can be set to any value in the country of origin. In the international network this bit is not checked. In the destination country, calls from the international network will have this bit set to 1.

bitsCBEnd-to-end method indicator (Bits B–F and J–K constitute the protocol control indicator)
00No end-to-end method available (only link-by-link method available)
01Pass along method available
10SCCP method available
11Pass along and SCCP methods available

bit D:Internetworking indicator
0No internetworking encountered (SS7 all the way)
1Internetworking encountered

bit E:National/international call indictor
0Call to be treated as a national call
1Call to be treated as an international call

bit F:ISDN user part indicator
0ISDN user part not used all the way
1ISDN user part used all the way

bitsHGISDN user part preference indicator
00ISDN user part preferred all the way
01ISDN user part not required all the way
10ISDN user part required all the way
11Spare

bit I:ISDN access indicator
0Originating access non-ISDN
1Originating access ISDN

Table 1-54 Forward Call Indicators Received Description Form (continued)

bitsKJSCCP method indicator
00no indication
01Connectionless method available
10Connection oriented method available
11Connectionless and Connection oriented methods available

bit L:Spare

bits P-M:Reserved for national use

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

Extended Data Value:
General Information:
MGC Release: Release 7.0 and later.

Forward Call Indicators Sent (Tag: 3010/ITU)

Table 1-55 Forward Call Indicators Sent Description Form

Name: Forward Call Indicators Sent	**Tag:** 3010	**Source:** MDL
Description/Purpose: It is for the sent Forward Call Indicator in ISUP message. It includes the following fields: International Call Ind.; End To End Method Ind.; Interworking Ind.; IAM Segmentation Ind.; ISDN User Part Ind.; ISDN User Part Preference Ind.; ISDN Access Ind.; SCCP Method Ind.		
Format: ITU-T Q.763	**Length in Octets:** 2	

Data Value:

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

The following codes are used in the forward call indicators parameter field:

bit A:National/international call indicator
0Call to be treated as a national call
1Call to be treated as an international call

Table 1-55 Forward Call Indicators Sent Description Form (continued)

This bit can be set to any value in the country of origin. In the international network this bit is not checked. In the destination country, calls from the international network will have this bit set to 1.

bitsCBEnd-to-end method indicator (Bits B–F and J–K constitute the protocol control indicator)
00No end-to-end method available (only link-by-link method available)
01Pass along method available
10SCCP method available
11Pass along and SCCP methods available

bit D:Internetworking indicator
0No internetworking encountered (SS7 all the way)
1Internetworking encountered

bit E:National/international call indictor
0Call to be treated as a national call
1Call to be treated as an international call

bit F:ISDN user part indicator
0ISDN user part not used all the way
1ISDN user part used all the way

bitsHGISDN user part preference indicator
00ISDN user part preferred all the way
01ISDN user part not required all the way
10ISDN user part required all the way
11Spare

bit I:ISDN access indicator
0Originating access non-ISDN
1Originating access ISDN

bitsKJSCCP method indicator
00no indication
01Connectionless method available
10Connection oriented method available
11Connectionless and Connection oriented methods available

bit L:Spare

bits P-M:Reserved for national use

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

Extended Data Value:	
General Information:	
MGC Release: Release 7.0 and later.	

Nature of Connection Indicators Received (Tag: 3011/ITU)

Table 1-56 Nature of Connection Indicators Received Description Form

Name: Nature of Connection Indicators Received	**Tag:** 3011	**Source:** MDL
Description/Purpose: Used to record the Nature of Connection received from the IAM. There are three possible indicators that can be received: the satellite indicator, the continuity check indicator, and the echo suppressor indicator.		
Format: ITU-T Q.763	**Length in Octets:** 1	

Data Value:

8	7	6	5	4	3	2	1
H	G	F	E	D	C	B	A

The following codes are used in the nature of connection indicators parameter field:

bitsBASatellite indicator
00No satellite circuit in the connection
01One satellite circuit in the connection
10Two satellite circuits in the connection
11Spare

bitsDCContinuity check indicator
00Continuity check not required
01Continuity check required on this circuit
10Continuity check performed on a previous circuit
11Spare

bit E:Echo control device indicator
0Outgoing half echo control device not included
1Outgoing half echo control device included

bitsF-HSpare

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

Extended Data Value:
General Information:
MGC Release: Release 7.0 and later.

Nature of Connection Indicators Sent (Tag: 3012/ITU)

Table 1-57 Nature of Connection Indicators Sent Description Form

Name: Nature of Connection Indicators Sent	**Tag:** 3012	**Source:** MDL
Description/Purpose: Used to record the Nature of Connection sent from the IAM. There are three possible indicators that can be received: the satellite indicator, the continuity check indicator, and the echo suppressor indicator.		
Format: ITU-T Q.763	**Length in Octets:** 1	

Data Value:

8	7	6	5	4	3	2	1
H	G	F	E	D	C	B	A

The following codes are used in the nature of connection indicators parameter field:

bitsBASatellite indicator
00No satellite circuit in the connection
01One satellite circuit in the connection
10Two satellite circuits in the connection
11Spare

bitsDCContinuity check indicator
00Continuity check not required
01Continuity check required on this circuit
10Continuity check performed on a previous circuit
11Spare

bit E:Echo control device indicator
0Outgoing half echo control device not included
1Outgoing half echo control device included

bitsF-HSpare

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

Extended Data Value:
General Information:
MGC Release: Release 7.0 and later.

Transit Network Selection (Tag: 3013/ITU)

Table 1-58 Transit Network Selection Description Form

Name: Transit Network Selection	**Tag:** 3013	**Source:** MDL
Description/Purpose: Used to identify each previous network type transited.		
Format: ITU-T Q.763	**Length in Octets:** 1-n	

Data Value:

	8	7	6	5	4	3	2	1
1	Odd/Even	Type of network identification			Network identification plan			
2 . . . 2n	Network identification							

The following codes are used in the subfields of the transit network selection parameter field:

Odd/even indicator

0Even number of digits
1Odd number of digits

Type of network identification

000CCITT-standardized identification
010National network identification
otherSpare

Network identification plan

For CCITT-standardized identification:
0000Unknown
0011Public data network identification code (DNIC), Recommendation X.121
0110 Public land mobile network identification code (MNIC), Recommendation E.212
otherSpare

For national network identification, this information is coded according to national specifications.

Network identification

This information is organized according to the network identification plan and the identified coding principle.

Note: The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.

Extended Data Value:

General Information: This value is used only with the following ITU ISUPs: HONG_KONG, AUSTRALIAN, FRENCH, NTT, and JAPAN. It can also be used for national ISUPs, within any particular country, with private designations for the network type. For a national call, such as ANSI, this tag is generated along with 2014.205

MGC Release: Release 7.0 and later.	

Redirecting Number Nature of Address (Tag 3017/ITU)

Table 1-59 Redirecting Number Nature of Address Description Form

Name: Called Number Nature of Address	**Tag:** 3017	**Source:** MDL
Description/Purpose: Indicates to the Cisco MGC how the number was delivered. It indicates the calling party address type. In POTS calling, there are usually two values that are used: Unique national number and Nonunique national number.		
Format: ITU-T Q.763	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.4.		

Egress Calling Number Nature of Address (Tag 3018/ITU)

Table 1-60 Egress Calling Number Nature of Address Description Form

Name: Egress Calling Number NOA	**Tag:** 3018	**Source:** MDL
Description/Purpose: This CDE records the calling party NOA sent in the outgoing message by the MGC. This field indicates the address type of the calling party. In POTS calling, there are usually two values that are used. They are Unique National Number and Non-unique National Number.		
Format: ANSI T1.113	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

Egress Redirecting Number Nature of Address (Tag 3019/ITU)

Table 1-61 Egress Redirecting Number Nature of Address Description Form

Name: Egress Redirecting Number NOA	**Tag:** 3019	**Source:** MDL
Description/Purpose: This CDE records the redirecting calling number NOA sent in the outgoing message by the MGC.		
Format: ITU-T Q.763	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

Egress Original Called Number Nature of Address (Tag 3020/ITU)

Table 1-62 Egress Calling Number Nature of Address Description Form

Name: Egress Original Called Number NOA	**Tag:** 3020	**Source:** MDL
Description/Purpose: This CDE records the original called party NOA sent in the outgoing message by the MGC.		
Format: ITU-T Q.763	**Length in Octet:** 1	
Data Value: 0000000 Spare 0000001 Subscriber number (national) 0000010 Unknown (national) 0000011 National (significant) number 0000100 International number 0000101 to Spare 1101111 1110000 to Reserved for national use 1111110 1111111 Spare **Note:** The above values are for standard ITU SS7. Variants of ITU SS7 may have different values. Verify the values for your variant with the appropriate specification, if necessary.		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

MGC Generic CDEs

CDB Version (Tag: 4000)

Table 1-63 CDB Version Description Form

Name: CDB Version	**Tag:** 4000	**Source:** MDL
Description/Purpose: Holds CDB version number to control raw CDB layout version.		
Format: BE	**Length in Octets:** 1	
Data Value: 1		
Extended Data Value: No extended value.		
General Information: This field is required in every CDB.		
MGC Release: Release 5.0 and later.		

CDB Timepoint (Tag: 4001)

Table 1-64 CDB Timepoint CDE Description Form

Name: CDB Timepoint	**Tag:** 4001	**Source:** MDL/Engine
Description/Purpose: Timepoint for creation of the CDB.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This field is required in every CDB.		
MGC Release: Release 5.0 and later.		

Call Reference ID (Tag: 4002)

Table 1-65 Call Reference ID Description Form

Name: Call Reference ID	**Tag:** 4002	**Source:** MDL/Engine
Description/Purpose: The Call Reference ID is created by the call processing engine as a unique Call ID. Multiple CDBs have this Call Reference ID to associate the CDBs that create the call. The purpose of this field is to uniquely identify a single call. This field is used by downstream systems (such as mediation) to correlate CDBs and create a single CDR record.		
Format: BE	**Length in Octets:** 8	
Data Value: This consists of a 32-bit time and a 32-bit ascending sequence number.		
Extended Data Value: No extended value.		
General Information: This field is required in every CDB.		

IAM/Setup Timepoint (Tag: 4003)

Table 1-66 IAM/Setup Timepoint Description Form

Name: IAM/Setup Timepoint	**Tag:** 4003	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of IAM/Setup (or receipt of CRM if a CRM preceded the IAM).		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This message is sent in the forward direction (from the originating exchange to the terminating exchange) to initiate seizure of an outgoing circuit and to transmit the number and other information relating to the routing and handling of a call.		
MGC Release: Release 5.0 and later.		

ACM/Alert Timepoint (Tag: 4004)

Table 1-67 ACM/Alert Timepoint Description Form

Name: ACM/Alert Timepoint	**Tag:** 4004	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of ACM/Alert.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This message is sent in the backward direction (from the terminating exchange to the originating exchange), indicating that all signals required for routing the call to the called party have been received.		
MGC Release: Release 5.0 and later.		

ANM/Answer Timepoint (Tag: 4005)

Table 1-68 ANM/Answer Timepoint Description Form

Name: ANM/Answer Timepoint	**Tag:** 4005	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of ANM/Answer.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This message is sent in the backward direction (from the terminating exchange to the originating exchange), indicating that the call has been answered. This message can be used in conjunction with the charging information to start measurement of a call duration.		
MGC Release: Release 5.0 and later.		

REL/Release Timepoint (Tag: 4006)

Table 1-69 REL/Release Timepoint Description Form

Name: REL/Release Timepoint	**Tag:** 4006	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of first REL/Release.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This message can be sent in either direction indicating that the circuit identified in the message is being released due to the reason (cause) supplied and is ready to be put in idle state on receipt of the release complete message. This message provides the release of the circuit of a call initiated by the IAM message.		
MGC Release: Release 5.0 and later.		

Crash Timepoint (Tag: 4007)

Table 1-70 Crash Timepoint Description Form

Name: Crash Timepoint	**Tag:** 4007	**Source:** MDL/Engine
Description/Purpose: Last known timepoint before a crash.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Originating Trunk Group (Tag: 4008)

Table 1-71 Originating Trunk Group Description Form

Name: Originating Trunk Group	**Tag:** 4008	**Source:** MDL/Engine
Description/Purpose: Holds the originating trunk group number. **Note** If you are using the Multiple Incoming IP Trunk Groups feature, this CDR contains the derived incoming trunk group ID.		
Format: BE	**Length in Octets:** 2	
Data Value: The trunk group number ranges from 1 to 16,384 for ANSI and 1 to 4096 for ITU.		
Extended Data Value: No extended value.		
General Information: When creating Bellcore AMA Format (BAF) records downstream, BAF supports only 4 digits for the trunk group number. This makes the practical limit 9999.		
MGC Release: Release 5.0 and later.		

Originating Member (Tag: 4009)

Table 1-72 Originating Member Description Form

Name: Originating Member	**Tag:** 4009	**Source:** MDL
Description/Purpose: Contains the originating trunk member number within the originating trunk group. There can be 2^{14} originating members when the MGC is configured for ANSI, and 2^{12} originating members when configured for ITU.		
Format: BE	**Length in Octets:** 2	
Data Value: There can be 2^{14} members for ANSI, and 2^{12} for ITU, and is represented as an integer.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Calling Number (Tag: 4010)

Table 1-73 Calling Number Description Form

Name: Calling Number	**Tag:** 4010	**Source:** MDL
Description/Purpose: These are the numbers of the calling number.		
Format: IA5	**Length in Octets:** 1 to 96	
Data Value: Holds the digits of the calling number.		
Extended Data Value: No extended value.		
General Information: In the SS7/C7 environment, the calling number (Tag 4010) holds only the digits of the calling number; it does not include any NOA, or other information. NOA and other information are presented by their own CDE(s).		
MGC Release: Release 5.0 and later.		

Charged Number (Tag: 4011)

Table 1-74 Charged Number Description Form

Name: Charged Number	**Tag:** 4011	**Source:** MDL
Description/Purpose: If the protocol contains a parameter called *charged number* the contents are deposited into this CDE in order to define unique number of the party to be billed. In this case, it may or may not be the calling number. However, if the *charged number* parameter does not exist, the calling number is placed by default into this CDE as a default billed party.		
Format: IA5	**Length in Octets:** 1 to 96	
Data Value: The digits of the number being billed.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Dialed Number (Tag: 4012)

Table 1-75 Dialed Number Description Form

Name: Dialed Number	**Tag:** 4012	**Source:** MDL
Description/Purpose: These are the digits that were dialed by the calling party.		
Format: IA5	**Length in Octets:** 1 to 96	
Data Value: The digits that were dialed by the calling party.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

LRN Number (Tag: 4013)

Table 1-76 LRN Number Description Form

Name: LRN Number	**Tag:** 4013	**Source:** MDL
Description/Purpose: Locations routing number (LRN) used in implementation of local number portability.		
Format: IA5	**Length in Octets:** 1 to 96	
Data Value: IA5 digits		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Called Number (Tag: 4014)

Table 1-77 Called Number Description Form

Name: Called Number	**Tag:** 4014	**Source:** MDL
Description/Purpose: This is the number to which the call is sent. This tag contains egress message information sent out in the outbound IAM.		
Format: IA5	**Length in Octets:** 1 to 96	
Data Value: The digits for the number to which the call is sent.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Terminating Trunk Group (Tag: 4015)

Table 1-78 Terminating Trunk Group Description Form

Name: Terminating Trunk Group	**Tag:** 4015	**Source:** MDL/Engine
Description/Purpose: Terminating Trunk Group number.		
Format: BE	**Length in Octets:** 2	
Data Value: The terminating trunk group number ranges from 1 to 16,384 when the MGC is configured for ANSI and the number ranges from 1 to 4096 when it is configured for ITU.		
Extended Data Value: No extended value.		
General Information: When creating BAF records downstream, BAF supports only 4 digits for trunk group number. This makes the practical limit 9999.		
MGC Release: Release 5.0 and later.		

Terminating Member (Tag: 4016)

Table 1-79 Terminating Member Description Form

Name: Terminating Member	**Tag:** 4016	**Source:** MDL/Engine
Description/Purpose: Contains the terminating trunk member number within the terminating trunk group. There can be 2^{14} members when the terminating trunk group is configured for ANSI, and up to 2^{12} members when it is configured for ITU.		
Format: BE	**Length in Octets:** 2	
Data Value: There can be up to 16,384 terminating members for ANSI, and up to 4096 members for ITU, and is represented as an integer.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Maintenance Trunk Group (Tag: 4017)

Table 1-80 Maintenance Trunk Group Description Form

Name: Maintenance Trunk Group	**Tag:** 4017	**Source:** MDL/Engine
Description/Purpose: Maintenance trunk group number involved for maintenance.		
Format: BE	**Length in Octets:** 2	
Data Value: The trunk group number ranges from 1 to 16,384 for ANSI and 1 to 4096 for ITU.		
Extended Data Value: No extended value.		
General Information: When creating BAF records downstream, BAF supports only 4 digits for trunk group number. This makes the practical limit 9999.		
MGC Release: Release 5.0 and later.		

Maintenance Circuit Member (Tag: 4018)

Table 1-81 Maintenance Circuit Member

Name: Maintenance Circuit Member	**Tag:** 4018	**Source:** MDL/Engine
Description/Purpose: Maintenance circuit member number within a trunk group. There can be up to 2^{14} members in a trunk group when the MGC is configured for ANSI and up to 2^{12} members when configured for ITU.		
Format: BE	**Length in Octets:** 2	
Data Value: There can be up to 16,384 members for ANSI and up to 4096 members for ITU, and is represented as an integer.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Glare Encountered (Tag: 4019)

Table 1-82 Glare Encountered Description Form

Name: Glare Encountered	**Tag:** 4019	**Source:** MDL
Description/Purpose: Call completed but glare was encountered during the call.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = No Glare 1 = Glare		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

RLC/RELEASE Complete Timepoint (Tag: 4020)

Table 1-83 RLC/Release Complete Timepoint Description Form

Name: RLC/Release Complete	**Tag:** 4020	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of RLC/Release complete.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

First Release Source (Tag: 4028)

Table 1-84 First Release Source Description Form

Name: First Release Source	**Tag:** 4028	**Source:** MDL
Description/Purpose: Indicates if the release source was an originating, terminating, or local (Cisco MGC) system.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = Originating side 1 = Terminating side 2 = Local (MGC)		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

LNP Dip (Tag: 4029)

Table 1-85 LNP Dip Description Form

Name: LNP Dip	**Tag:** 4029	**Source:** MDL
Description/Purpose: Indicates if an LNP dip was performed.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = Not required 1 = Required and succeeded 2 = Not required, previous switch accomplished LNP 3 = Required, failed		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Total Meter Pulses (Tag: 4030)

Table 1-86 Total Meter Pulses Description Form

Name: Total Meter Pulses	**Tag:** 4030	**Source:** MDL
Description/Purpose: Holds the total meter pulses. Certain Integrated Services Digital Network User Parts (ISUPs) and Telephone User Parts (TUPs) support this optional information.		
Format: BE	**Length in Octets:** 2	
Data Value: Total meter pulse counts sent out by Cisco MGC for a call.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later. To be retired after Release 9.5(2).		

Maintenance Type (Tag: 4032)

Table 1-87 Maintenance Type Description Form

Name: Maintenance Type	**Tag:** 4032	**Source:** MDL
Description/Purpose: Indicates the type of maintenance requested.		
Format: BE	**Length in Octets:** 1	
Data Value: Up to Release 9.2(2): 1 = Block 2 = Unblock 3 = Reset Release 9.3(1) and later: 1 = Blocked channel remote 2 = Unblocked channel remote 3 = Reset or restart channel remote 4 = Reset channel local 5 = Blocked channel local 6 = Unblocked channel local		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Maintenance Reason (Tag: 4033)—Retired

Table 1-88 Maintenance Reason Description Form

Name: Maintenance Reason	**Tag:** 4033	**Source:** MDL
Description/Purpose: Indicates the reason that the maintenance was requested.		
Format: BE	**Length in Octets:** 1	
Data Value: Up to Release 9.2(2): 1 = Remote 2 = Local Release 9.3(1) and later: 1 = Blocked channel remote 2 = Unblocked channel remote 3 = Reset or restart channel remote 4 = Reset channel local 5 = Blocked channel local 6 = Unblocked channel local		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 5.0 and later.		

Note Tag 4033is retired in Release 9.4(1) of the Cisco MGC software.

Ingress Originating Point Code (Tag: 4034)

Table 1-89 Ingress Originating Point Code Description Form

Name: Ingress Originating Point Code	**Tag:** 4034	**Source:** MDL
Description/Purpose: Holds the ingress originating point code.		
Format: BE	**Length in Octets:** 4	
Data Value: The point code is in 4-byte integer format.		
Extended Data Value: No extended value.		
General Information: Conversion example of point code from 4-byte integer to IA5 format:· • ITU C7 point code (3 bits - 8bits - 3bits) Tag value in integer format = 4114 Convert tag value in binary format = 1000000010010 Convert tag value in IA5 format = 10-00000010-010 (2-2-2) • ANSI SS7 point code (8 bits - 8 bits - 8 bits) Tag value in integer format = 131586 Convert tag value in binary format = 100000001000000010 Convert tag value in IA5 format = 10-00000010-00000010 (2-2-2)		
MGC Release: Release 7.0 and later.		

Ingress Destination Point Code (Tag: 4035)

Table 1-90 Ingress Destination Point Code Description Form

Name: Ingress Destination Point Code	**Tag:** 4035	**Source:** MDL
Description/Purpose: Holds the ingress destination point code.		
Format: BE	**Length in Octets:** 4	
Data Value: The point code is in 4-byte integer format.		
Extended Data Value: No extended value.		
General Information: Conversion example of point code from 4-byte integer to IA5 format:· • ITU C7 point code (3 bits - 8bits - 3bits) Tag value in integer format = 4114 Convert tag value in binary format = 1000000010010 Convert tag value in IA5 format = 10-00000010-010 (2-2-2) • ANSI SS7 point code (8 bits - 8 bits - 8 bits) Tag value in integer format = 131586 Convert tag value in binary format = 100000001000000010 Convert tag value in IA5 format = 10-00000010-00000010 (2-2-2)		
MGC Release: Release 7.0 and later.		

Egress Originating Point Code (Tag: 4036)

Table 1-91 Egress Originating Point Code

Name: Egress Originating Point Code	**Tag:** 4036	**Source:** MDL
Description/Purpose: Holds the egress originating point code.		
Format: BE	**Length in Octets:** 4	
Data Value: The point code is in 4-byte integer format.		
Extended Data Value: No extended value.		
General Information: Conversion example of point code from 4-byte integer to IA5 format:· • ITU C7 point code (3 bits - 8bits - 3bits) Tag value in integer format = 4114 Convert tag value in binary format = 1000000010010 Convert tag value in IA5 format = 10-00000010-010 (2-2-2) • ANSI SS7 point code (8 bits - 8 bits - 8 bits) Tag value in integer format = 131586 Convert tag value in binary format = 100000001000000010 Convert tag value in IA5 format = 10-00000010-00000010 (2-2-2)		
MGC Release: Release 7.0 and later.		

Egress Destination Point Code (Tag: 4037)

Table 1-92 Egress Destination Point Code Description Form

Name: Egress Destination Point Code	**Tag:** 4037	**Source:** MDL
Description/Purpose: Holds the egress destination point code.		
Format: BE	**Length in Octets:** 4	
Data Value: The point code is in 4-byte integer format.		
Extended Data Value: No extended value.		
General Information: Conversion example of point code from 4-byte integer to IA5 format:· • ITU C7 point code (3 bits - 8bits - 3bits) Tag value in integer format = 4114 Convert tag value in binary format = 1000000010010 Convert tag value in IA5 format = 10-00000010-010 (2-2-2) • ANSI SS7 point code (8 bits - 8 bits - 8 bits) Tag value in integer format = 131586 Convert tag value in binary format = 100000001000000010 Convert tag value in IA5 format = 10-00000010-00000010 (2-2-2)		
MGC Release: Release 7.0 and later.		

Ingress Media Gateway ID (Tag: 4038)

Table 1-93 Ingress Media Gateway ID Description Form

Name: Ingress Media Gateway ID	**Tag:** 4038	**Source:** MDL
Description/Purpose: Ingress media gateway ID (expressed in address).		
Format: BE	**Length in Octets:** 2	
Data Value: 16 bits of binary value.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Egress Media Gateway ID (Tag: 4039)

Table 1-94 Egress Media Gateway ID Description Form

Name: Egress Media Gateway ID	**Tag:** 4039	**Source:** MDL
Description/Purpose: Egress media gateway ID (expressed in address).		
Format: BE	**Length in Octets:** 2	
Data Value: 16 bits of binary value.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

TCAP Transaction ID (Tag: 4040)

Table 1-95 TCAP Transaction ID Description Form

Name: TCAP Transaction ID	**Tag:** 4040	**Source:** MDL
Description/Purpose: The TCAP transaction ID holds a unique identification number for each external request to an SCP, an intelligent peripheral (IP), or some other database.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Transaction Start Time (Tag: 4041)

Table 1-96 Transaction Start Time Description Form

Name: Transaction Start Time	**Tag:** 4041	**Source:** MDL/Engine
Description/Purpose: The time at which the Cisco MGC sent an external request to an SCP, intelligent peripheral (IP), or some other database.		
Format: DT2	**Length in Octets:** 6	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Transaction End Time (Tag: 4042)

Table 1-97 Transaction End Time Description Form

Name: Transaction End Time	**Tag:** 4042	**Source:** MDL/Engine
Description/Purpose: The time at which the Cisco MGC received a response from an external request to an SCP, IP, or some other database.		
Format: DT2	**Length in Octets:** 6	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

TCAP Database ID (Tag: 4043)

Table 1-98 TCAP Database ID Description Form

Name: TCAP Database ID	**Tag:** 4043	**Source:** MDL/Engine
Description/Purpose: The external database identification number for the SCP, IP, or some other external database for which a transaction was performed.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Announcement ID (Tag: 4044)

Table 1-99 Announcement ID Description Form

Name: Announcement ID	**Tag:** 4044	**Source:** MDL
Description/Purpose: Announcement ID value.		
Format: BE	**Length in Octets:** 2	
Data Value: An integer value to identify which announcement to play.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Route Selection Info (Tag: 4045) Retired

Table 1-100 Route Selection Info Description Form

Name: Route Selection Info	**Tag:** 4045	**Source:** MDL
Description/Purpose: Route index and the route ID value.		
Format: BE	**Length in Octets:** 4	
Data Value: **SubfieldLengthValue** Route Index2Route Index that is used to select a route Route ID2Route ID selected		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later. This tag is retired as of Release 9.5(2).		

Ingress Packet Info (Tag: 4046) Restored

Table 1-101 Ingress Packet Info Description Form

Name: Ingress Packet Info	**Tag:** 4046	**Source:** MDL
Description/Purpose: Contains the packets sent, packets received, packets lost, octets sent, octets received, jitter, and latency information (reserved 1 and 2) from the ingress gateway. On Release 9.7(3), H.248 support is added. For an H.248 call, the subfield definitions are unchanged and the data is filled with the statistics of Network Package (nt) and RTP Package (rtp) in H.248.		
Format: BE	**Length in Octets:** 36	
Data Value: **SubfieldLengthPosition Value** Packets sent41MGCP->DLCX or DLCX ack,P:PS= Packets received45MGCP->DLCX or DLCX ack,P:PR= Packets lost49MGCP->DLCX or DLCX ack,P:PL= Octets sent413MGCP->DLCX or DLCX ack,P:OS= Octets received417MGCP->DLCX or DLCX ack,P:OR= Jitter421MGCP->DLCX or DLCX ack,P:JI= Latency425MGCP->DLCX or DLCX ack,P:LA= Reserved 1429 Reserved 2433		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 to 7.3 and Release 9.4(1) and up.		
Note: This tag was retired in Release 7.4. It is restored as of Release 9.4(1).		

Egress Packet Info (Tag: 4047) Restored

Table 1-102 Egress Packet Info Description Form

Name: Egress Packet Info	**Tag:** 4047	**Source:** MDL
Description/Purpose: Contains the packets sent, packets received, packets lost, octets sent, octets received, jitter, and latency information (reserved 1 and 2) from the egress gateway. On Release 9.7(3), H.248 support is added. For an H.248 call, the subfield definitions are unchanged and the data is filled with the statistics of Network Package (nt) and RTP Package (rtp) in H.248.		
Format: BE	**Length in Octets:** 36	
Data Value: **SubfieldLengthPosition Value** Packets sent41MGCP->DLCX or DLCX ack,P:PS= Packets received45MGCP->DLCX or DLCX ack,P:PR= Packets lost49MGCP->DLCX or DLCX ack,P:PL= Octets sent413MGCP->DLCX or DLCX ack,P:OS= Octets received417MGCP->DLCX or DLCX ack,P:OR= Jitter421MGCP->DLCX or DLCX ack,P:JI= Latency425MGCP->DLCX or DLCX ack,P:LA= Reserved 1429 Reserved 2433		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 to 7.3, and Release 9.4(1) and up.		
Note: This tag was retired in Release 7.4. It is restored as of Release 9.4(1).		

Directional Flag (Tag: 4048)

Table 1-103 Directional Flag Description Form

Name: Directional Flag	**Tag:** 4048	**Source:** MDL/Engine
Description/Purpose: Contains information that describes the role of the Cisco MGC when EISUP is involved.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = Intermediate Switch (E-ISUP to E-ISUP) 1 = Ingress Switch (^E-ISUP to E-ISUP) 2 = Egress Switch (E-ISUP to ^E-ISUP) 3 = Both (^E-ISUP to ^E-ISUP)		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Service Logic ID (Tag: 4049)

Table 1-104 Service Logic ID Description Form

Name: Service Logic ID	**Tag:** 4049	**Source:** MDL
Description/Purpose: This field value is used in an advanced intelligent network (AIN) environment. It records an identification of service logic in the SCP that was used. The AMAslpID returns from the SCP hold the service logic ID value.		
Format: IA5	**Length in Octets:** 9	
Data Value: 000000001 – 899999999		
Extended Data Value: No extended value.		
General Information: This field value implies that the mediation software (when configured to generate AMA) generates Structure Code 220. (For more details please refer to Telcordia GR-2892-CORE Section 8.) **Note** This CDE is not applicable to INAP calls.		
MGC Release: Release 7.0 and later.		

AMA Line Number (Tag: 4050)

Table 1-105 AMA Line Number Description Form

Name: AMA Line Number	**Tag:** 4050	**Source:** MDL
Description/Purpose: This field value is used in an AIN environment. It is included in the Analyzed_Route message. It uses an AIN digits format and contains the original called party ID, incoming terminating number, or ANI.		
Format: IA5	**Length in Octets:** 15	
Data Value: Up to a 12-digit line number and a 3-digit line number type.		
Extended Data Value: No extended value.		
General Information: This field value implies that the mediation software (when configured to generate AMA) generates Structure Code 220 with AMALineNumber to be recorded in Module Code 307. (For more details, please refer to Telcordia GR-2892-CORE Section 8.) **Note** The Analyzed_Route message allows up to two AMALineNumber parameters; therefore, the Cisco MGC can save up to two AMA line numbers, and the mediation can generate two module Code 307s. **Note** This CDE is not applicable to INAP calls.		
MGC Release: Release 7.0 and later.		

OOriginating Gateway Primary Select (Tag: 4052) Defined for Future Use

Table 1-106 Originating Gateway Primary Select Form

Name: Originating Gateway Primary Select	**Tag:** 4052	**Source:** MDL/Engine
Description/Purpose:		
Format: Binary	**Length in Octets:** 1	
Data Value: 0 = False 1 = True		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Defined for Future Use		

Terminating Gateway Primary Select (Tag: 4053) Defined for Future Use

Table 1-107 Terminating Gateway Primary Select Form

Name: Terminating Gateway Primary Select	**Tag:** 4053	**Source:** MDL/Engine
Description/Purpose:		
Format: Binary	**Length in Octets:** 1	
Data Value: 0 = False 1 = True		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Defined for future use.		

Redirecting Number (Tag: 4060)

Table 1-108 Redirecting Number Description Form

Name: Redirecting Number	**Tag:** 4060	**Source:** MDL/Engine
Description/Purpose: Stores the digits from Redirecting Number.		
Format: IA5	**Length in Octets:** 1–96	
Data Value: Character string containing the forwarded station's address or subscriber number.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Scale Factor (Tag: 4062)

Table 1-109 Scale Factor Description Form

Name: Scale Factor	**Tag:** 4062	**Source:** MDL/Engine
Description/Purpose: Used for reporting Advice of Charge information.		
Format: BE	**Length in Octets:** 4	
Data Value: The actual value for the scale factor is given by 10^x, where x is the value of the scale factor. The coding of scale factor is as follows; all other values are spare: — (249) –7 0.0000001 — (250) –6 0.000001 — (251) –5 0.00001 — (252) –4 0.0001 — (253) –3 0.001 — (254) –2 0.01 — (255) –1 0.1 — 0 1 — 1 10 — 2 100 — 3 1000		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9 and later.		

Test Line Indicator (Tag: 4063)

Table 1-110 Test Line Indicator Description Form

Name: Test Line Indicator	**Tag:** 4063	**Source:** MDL/Engine
Description/Purpose: The test line indicator is used for reporting the type of test line.		
Format: BE	**Length in Octets:** 4	
Data Value: Valid values for the TestLineType integer are: TYPE_100 = 0 TYPE_102 = 1 TYPE_105 = 2 TYPE_108 = 3		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9 and later.		

Redirection Number (Tag: 4065)

Table 1-111 Ingress SigPath ID Description Form

Name: Redirection Number	**Tag:** 4065	**Source:** MDL
Description/Purpose: This tag contains the digits of the new number when the PGW redirects a call.		
Format: IA5	**Length in Octets:** 1-96	
Data Value: Redirection number digits		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.7 and later.		

Ingress SigPath ID (Tag: 4066)

Table 1-112 Ingress SigPath ID Description Form

Name: Ingress SigPath ID	**Tag:** 4066	**Source:** MDL/Engine
Description/Purpose: The ingress SigPath ID is used to associate incoming bearer channels with signaling services, such as a destination point code (DPC) in SS7.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Ingress Span ID (Tag: 4067)

Table 1-113 Ingress Span ID Description Form

Name: Ingress Span ID	**Tag:** 4067	**Source:** MDL/Engine
Description/Purpose: The ingress Span ID is used for incoming PRI bearer channels. A span is a grouping of bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Ingress BearChan ID (Tag: 4068)

Table 1-114 Ingress BearChan ID Description Form

Name: Ingress BearChan ID	**Tag:** 4068	**Source:** MDL/Engine
Description/Purpose: The ingress BearChan ID is used for incoming bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Ingress Protocol ID (Tag: 4069)

Table 1-115 Ingress Protocol ID Description Form

Name: Ingress Protocol ID	**Tag:** 4069	**Source:** MDL/Engine
Description/Purpose: The ingress Protocol ID is determined from MDL and is used in measurements and billing. On Release 9.7(3), for the H.248 Protocol feature, new protocol type: “10=H.248” is added to the definition.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = ISDN PRI 1 = C7 2 = DPNSS 3 = CAS 4 = ASN 5 = Unknown 6 = EISUP 7 = H.323 8 = SIP 9 = MGCP Binary big-endian		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Egress SigPath ID (Tag: 4070)

Table 1-116 Egress SigPath ID Description Form

Name: Egress SigPath ID	**Tag:** 4070	**Source:** MDL/Engine
Description/Purpose: The egress SigPath ID is used to associate outgoing bearer channels with signaling services, such as a destination point code (DPC) in SS7.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Egress Span ID (Tag: 4071)

Table 1-117 Egress Span ID Description Form

Name: Egress Span ID	**Tag:** 4071	**Source:** MDL/Engine
Description/Purpose: The egress Span ID is used for outgoing PRI bearer channels. A span is a grouping of bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Egress BearChan ID (Tag: 4072)

Table 1-118 Egress BearChan ID Description Form

Name: Egress BearChan ID	**Tag:** 4072	**Source:** MDL/Engine
Description/Purpose: The egress BearChan ID is used for outgoing bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Egress Protocol ID (Tag: 4073)

Table 1-119 Egress Protocol ID Description Form

Name: Egress Protocol ID	**Tag:** 4073	**Source:** MDL/Engine
Description/Purpose: The egress Protocol ID is determined from MDL and is used in measurements and billing. On Release 9.7(3), for the H.248 Protocol feature, new protocol type: “10=H.248” is added to the definition.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = ISDN PRI 1 = C7 2 = DPNSS 3 = CAS 4 = ASN 5 = Unknown 6 = EISUP 7 = H.323 8 = SIP 9 = MGCP Binary big-endian		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Maintenance SigPath ID (Tag: 4074)

Table 1-120 Maintenance SigPath ID Description Form

Name: Maintenance SigPath ID	**Tag:** 4074	**Source:** MDL/Engine
Description/Purpose: The maintenance SigPath ID is used to associate maintenance bearer channels with signaling services, such as a destination point code (DPC) in SS7.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Maintenance Span ID (Tag: 4075)

Table 1-121 Maintenance Span ID Description Form

Name: Maintenance Span ID	**Tag:** 4075	**Source:** MDL/Engine
Description/Purpose: The maintenance Span ID is used for maintenance PRI bearer channels. A span is a grouping of bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Maintenance BearChan ID (Tag: 4076)

Table 1-122 Maintenance BearChan ID Description Form

Name: Maintenance BearChan ID	**Tag:** 4076	**Source:** MDL/Engine
Description/Purpose: The maintenance BearChan ID is used for maintenance bearer channels.		
Format: BE	**Length in Octets:** 4	
Data Value: 32 bits of binary value		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7 and later.		

Maintenance Circuits Count (Tag: 4077)

Maintenance Circuits Count Description Form

Name: Maintenance Circuits Count	**Tag:** 4077	**Source:** MDL/Engine
Description/Purpose: The maintenance circuits count is the number of circuits in a maintenance event reported in CDB 1070.		
Format: BE	**Length in Octets:** 4	
Data Value: Counting is zero based, so add 1 to any result returned in this tag for the actual circuit count.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.3(1) and later.		

Charge Band Number (Tag: 4078)

Table 1-123 Charge Band Number Description Form

Name: Charge Band Number	**Tag:** 4078	**Source:** MDL/Engine
Description/Purpose: Used for reporting Advice of Charge information.		
Format: BE	**Length in Octets:** 1	
Data Value: Integer containing the Charge Band Number: Range: 0-255.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.3(1) and later.		

Furnish Charging Information (Tag: 4079)

Table 1-124 Furnish Charging Information Description Form

Name: Furnish Charging Information	**Tag:** 4079	**Source:** MDL
Description/Purpose: Returned by the SCP during an IN Prepaid Service call dialog. Contains unspecified charge data to be written to the CDR.		
Format: IA5	**Length in Octets:** Variable	
Data Value: Unspecified.		
Extended Data Value: No extended value.		
General Information: Assigned by SCP and transparently passed to CDR		
MGC Release: Release 9.3(1) and later.		

Original Called Number (Tag: 4080)

Table 1-125 Original Called Number Description Form

Name: Original Called Number	**Tag:** 4080	**Source:** MDL
Description/Purpose: This tag contains the digits from the original called party number.		
Format: IA5	**Length in Octets:** 1-96	
Data Value: The digits of the original called party number.		
Extended Data Value: No extended value.		
General Information: The following are conditions that could have Original Called Number: • Original called number parameter could be received in the IAM message if the call is redirected before for SS7 calls. • A distant end TDM switch sends a Release message back to the MGC over SS7 containing a Cause parameter or Redirection Information parameter, Redirection Number parameter, and possibly a Redirection Number Restriction parameter. The actual cause value contained indicates that re-direction is required and Cause analysis directs this. If the call is redirected and there is no original called party number, then the called party number is mapped to the original called party number.		
MGC Release: Release 9.3(1) and later.		

T.38 Fax Call (Tag: 4081)

Table 1-126 T.38 Fax Call Description Form

Name: T.38 Fax Call	**Tag:** 4081	**Source:** MDL
Description/Purpose: Indicates that the call was a Fax call negotiated using T.38.		
Format: IA5	**Length in Octets:** 1	
Data Value: 0 = No Fax information available 1 = Call Agent negotiated T.38 Fax call		
Extended Data Value: No extended value.		
General Information: The data for this CDR is assigned by SCP and transparently passed to CDR.		
MGC Release: Release 9.3(2) and later.		

Charge Unit Number (Tag: 4082)

Table 1-127 Charge Unit Number Description Form

Name: Charge Unit Number	**Tag:** 4082	**Source:** MDL
Description/Purpose: Used for reporting Advice of Charge information.		
Format: BE	**Length in Octets:** 1	
Data Value: Comprised of an integer containing the Charge Unit Number, provisioned as part of the Dial Plan provisioning ANSI/ITU Variations: None Valid Range: 0-255		
Extended Data Value: No extended value.		
General Information: The data for this CDR is assigned by SCP and transparently passed to CDR.		
MGC Release: Release 9.3(2) and later.		

Charge Indicator (Tag: 4083)

Table 1-128 Charge Indicator Description Form

Name: Charge Indicator	**Tag:** 4083	**Source:** MDL
Description/Purpose: Allows the carrier to determine whether certain calls need to be billed.		
Format: BE	**Length in Octets:** 1	
Data Value: Charge Indicator information is 2 bit and is defined as follows: 01 No Charge 10 Charge 00 No Indication		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Outgoing Calling Party Number (Tag: 4084)

Table 1-129 Outgoing Calling Party Number Description Form

Name: Outgoing Calling Party Number	**Tag:** 4084	**Source:** MDL
Description/Purpose: The Calling Party Number being sent out on line by the Cisco MGC is recorded in this tag. This value may be different from the received Calling Party Number. The received Calling Party Number may be modified either because of Generic Number or in Generic Analysis.		
Format:IA5	**Length in Octets:** 1 to 96	
Data Value: It holds the Outgoing Calling Party Number.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

MCID Request Indicator (Tag: 4085)

Table 1-130 MCID Request Indicator Description Form

Name: MCID Request Indicator	**Tag:** 4085	**Source:** MDL
Description/Purpose: Allows the carrier to determine whether MCID is requested or not.		
Format: BE	**Length in Octets:** 1	
Data Value: MCID Request Indicator information is 1 bit and is defined as follows: 0 MCID not requested 1 MCID requested		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

MCID Response Indicator (Tag: 4086)

Table 1-131 MCID Response Indicator Description Form

Name: MCID Response Indicator	**Tag:** 4086	**Source:** MDL
Description/Purpose: Allows the carrier to determine whether MCID is included or not.		
Format: BE	**Length in Octets:** 1	
Data Value: MCID Response Indicator information is 1 bit and is defined as follows: 0 MCID not included 1 MCID included		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Ingress MGCP DLCX Return Code (Tag: 4087)

Table 1-132 Ingress MGCP DLCX Return Code Description Form

Name: Ingress MGCP DLCX Return Code	**Tag:** 4087	**Source:** MDL
Description/Purpose: Indication of MGCP DLCX (Delete Connection) return code value on the ingress gateway. On Release 9.7(3), the H.248 Protocol feature is added. If an H.248 gateway is engaged on the ingress side, this tag is not logged in to CDR.		
Format: BE	**Length in Octets:** 1	
Data Value: Return code value returned by the associated media gateway.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Egress MGCP DLCX Return Code (Tag: 4088)

Table 1-133 Egress MGCP DLCX Return Code Description Form

Name: Egress MGCP DLCX Return Code	**Tag:** 4088	**Source:** MDL
Description/Purpose: Indication of MGCP DLCX (Delete Connection) return code value from the egress gateway. On Release 9.7(3), the H.248 Protocol feature is added. For the H.248 gateway, this tag is not logged in to CDR.		
Format: BE	**Length in Octets:** 1	
Data Value: Return code value returned by the associated media gateway.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Network Translated Address Indicator (Tag: 4089)

Table 1-134 Network Translated Address Indicator Description Form

Name: Network Translated Address Indicator	**Tag:** 4089	**Source:** MDL
Description/Purpose: Information sent in the forward direction to indicate whether network translation of the called address has occurred. This indicator is specific to BTNUP, UK IUP, and UK ISUP. This allows you to determine whether a number has been translated. An example of this would be a 1-900 provider. If the NTA has not occurred, the customer would know that the calling party is not paying for the call.		
Format: BE	**Length in Octets:** 1	
Data Value: Network Translated Address Indicator information is 1 bit and is defined as follows: 0 No Indication 1 Network Translated Address Indication		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Reservation Request Accepted (Tag: 4090)

Table 1-135 Reservation Request Accepted Description Form

Name: Reservation Request Accepted	**Tag:** 4090	**Source:** MDL
Description/Purpose: This tag is present if the call was made using the Resource Reservation Protocol on the bearer.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = No RSVP was present 1 = RSVP was present in the call 2 = RSVP was present in the call, but call torn down when res/rl received ANSI/ITU Variations: None		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Reservation Request Error Count (Tag: 4091)

Table 1-136 Reservation Request Error Count Description Form

Name: Reservation Request Error Count	**Tag:** 4091	**Source:** MDL
Description/Purpose: This tag is present if the Resource Reservation Lost event was received during a call. It will be a count of the number of times the event occurred during the call.		
Format: BE	**Length in Octets:** 1	
Data Value: Count of the number of times the Resource Reservation Error event was received during a call.		
ANSI/ITU Variations: None		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

ATM Ingress Configured Profile (Tag: 4092)

Table 1-137 ATM Ingress Configured Profile Description Form

Name: ATM Ingress Configured Profile	**Tag:** 4092	**Source:** MDL
Description/Purpose: This tag is present if an ATM profile was configured based on Service Level Agreement (SLA) for Ingress call leg.		
Format: IA5	**Length in Octets:** 1-16	
Data Value: ITU 1 ITU 2 ITU 3 ITU 7 ITU 8 ITU 12 Custom 100 Custom 101 Custom 110 Custom 200		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

ATM Egress Configured Profile (Tag: 4093)

Table 1-138 ATM Egress Configured Profile Description Form

Name: ATM Egress Configured Profile	**Tag:** 4093	**Source:** MDL
Description/Purpose: This tag is present if an ATM profile was configured based on Service Level Agreement (SLA) for Egress call leg.		
Format: IA5	**Length in Octets:** 1-16	
Data Value: ITU 1 ITU 2 ITU 3 ITU 7 ITU 8 ITU 12 Custom 100 Custom 101 Custom 110 Custom 200		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

ATM Negotiated Profile (Tag: 4094)

Table 1-139 ATM Negotiated Profile Description Form

Name: ATM Negotiated Profile	**Tag:** 4094	**Source:** MDL
Description/Purpose: This tag is present if an ATM profile was negotiated based on Service Level Agreement (SLA).		
Format: IA5	**Length in Octets:** 1-16	
Data Value: ITU 1 ITU 2 ITU 3 ITU 7 ITU 8 ITU 12 Custom 100 Custom 101 Custom 110 Custom 200 ANSI/ITU Variations: None		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Route List Name (Tag: 4095)

Table 1-140 Route List Name Description Form

Name: Route List Name	**Tag:** 4095	**Source:** Engine
Description/Purpose: Route List Name being used for the call.		
Format:IA5	**Length in Octets:** 1 to 20	
Data Value: ASCII name of the Route List being used.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Route Name (Tag: 4096)

Table 1-141 Route Name Description Form

Name: Route Name	**Tag:** 4096	**Source:** Engine
Description/Purpose: Route Name being used for the call.		
Format:IA5	**Length in Octets:** 1 to 20	
Data Value: ASCII name of the route being used.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

MGCP Script Response String (Tag: 4097)

Table 1-142 MGCP Script Response String Description Form

Name: MGCP Script Response String	**Tag:** 4097	**Source:** MDL
Description/Purpose: For MGCP Script hand-off calls, this tag records the Notification response string, if any, returned in the O: parameter of the MGCP NTFY message. If this call did not receive a MGCP NTFY message, this tag is not logged. On Release 9.7(3), the H.248 Protocol feature is supported. As MGCP scripting is not ported to H.248, H.248 never generate this CDB.		
Format: IA5	**Length in Octets:** maximum of 128	
Data Value: Contains the response string as obtained from the media gateway, in the MGCP NTFY message, including the event indicators oc or of. ANSI/ITU Variations: None. Other variations: None. Values: n/a Examples: oc(Call completed.) oc(Authentication failed) of() of		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Originating Leg DSP Statistics (Tag: 4098)

Table 1-143 Originating Leg DSP Statistics Description Form

Name: Originating Leg DSP Statistics	**Tag:** 4098	**Source:** Engine
Description/Purpose: Provides DSP statistics for the originating leg of the call. On Release 9.7(3), the H.248 Protocol feature is added. Because for H.248 DSP statistics in CDR are not supported, this tag is not logged in to CDR for the H.248 leg.		
Format: IA5	**Length in Octets:** 280 through 794	

Data Value:

An example of the statistics generated by the media gateway appears below:

```
OrigDSPstats...: DSP/TX: PK=data1, SG=data2, NS= data3, DU= data4, VO=,
    DSP/RX: VO= , SG= , CF= , RX= , BS= , BP= , LP= , EP= ,
    DSP/PD: CU= , MI= , MA= , CO= , IJ= ,
    DSP/PE: PC= , IC= , SC= , RM= , BO= , EE= ,
    DSP/LE: TP= , TX= , RP= , RM= , BN= , ER= , AC= , TA= , RA= ,
    DSP/ER: RD= , TD= , RC= , TC= ,
    DSP/IC: IC= ,.
```

In Release 9.6, the statistics are enhanced to support the DSP Voice Quality Statistics in DLCX Messages feature in Cisco IOS Release 12.4(4)T. The DSP Voice Quality Statistics feature introduces a priority setting on the media gateway that allows control of the impact of statistic generation. There are two priority values: 1, which limits the statistics generated by the media gateway, and 2, which enables all statistics to be generated.

An example of the appearance of the statistics generated when the media gateway is set to priority 1 appears below.

```
OrigDSPstats…..:DSP/TX: PK=, SG=, NS=, DU=, VO=,
    DSP/RX: PK=, SG=, CF=, RX=, VO=, BS=, BP=, LP=, EP=,
    DSP/PD: CU=, MI=, MA=, CO=, IJ=,
    DSP/LE: TP=, TX=, RP=, RM=, BN=, ER=, AC=,
    DSP/EC: CI=, FM=, FP=, VS=, GT=, GR=, JD=, JN=, JM=, JX=,
    DSP/CS: CR=, AV=, MX=, CT=, TT=, OK=, CS=, SC=, TS=, DC=,
    DSP/DL: RT=, ED=
```

An example of the appearance of the statistics generated when the media gateway is set to priority 2 appears below.

```
OrigDSPstats…..:DSP/TX: PK=, SG=, NS=, DU=, VO=,
        DSP/RX: PK=, SG=, CF=, RX=, VO=, BS=, BP=, LP=, EP=,
        DSP/PD: CU=, MI=, MA=, CO=, IJ=,
        DSP/PE: PC=, IC=, SC=, RM=, BO=, EE=,
        DSP/LE: TP=, TX=, RP=, RM=, BN=, ER=, AC=,
        DSP/ER: RD=, TD=, RC=, TC=,
        DSP/IC: IC=,
        DSP/EC: CI=, FM=, FP=, VS=, GT=, GR=, JD=, JN=, JM=, JX=,
        DSP/KF: KF=, AV=, MI=, BS=, NB=, FL=, NW=, VR=,
        DSP/CS: CR=, AV=, MX=, CT=, TT=, OK=, CS=, SC=, TS=, DC=,
        DSP/RF: ML=, MC=, R1=, R2=, IF=, ID=, IE=, BL=, R0=, VR=,
        DSP/UC: U1=, U2=, T1=, T2=,
        DSP/DL: RT=, ED=
```

Table 1-143 Originating Leg DSP Statistics Description Form (continued)

Extended Data Value: No extended value.
General Information: This CDE is populated when an originating endpoint is controlled by the Cisco MGC software through the MGCP protocol and the associated MGCP media gateway is enabled to send DSP statistics to the Cisco MGC. Information on the configuring DSP voice quality statistics on the media gateway and definitions for the various fields used in the statistics can be found in the *DSP Voice Quality Statistics in DLCX Messages* feature module.
MGC Release: Release 9.4(1) and later. Support of the DSP voice quality statistics is added in Release 9.6(1), patch CSCOnn026.

Terminating Leg DSP Statistics (Tag: 4099)

Table 1-144 Terminating Leg DSP Statistics Description Form

Name: Terminating Leg DSP Statistics	**Tag:** 4099	**Source:** Engine
Description/Purpose: Provides DSP statistics for the terminating leg of the call. On Release 9.7(3), the H.248 Protocol feature is added. Because for H.248 DSP statistics in CDR are not supported, this tag is not logged in to CDR for the H.248 leg.		
Format: IA5	**Length in Octets:** 280 through 794	

Data Value:

```
TermDSPstats.....: DSP/TX: PK=data1, SG=data2, NS= data3, DU= data4, VO=,
    DSP/RX: VO= , SG= , CF= , RX= , BS= , BP= , LP= , EP= ,
    DSP/PD: CU= , MI= , MA= , CO= , IJ= ,
    DSP/PE: PC= , IC= , SC= , RM= , BO= , EE= ,
    DSP/LE: TP= , TX= , RP= , RM= , BN= , ER= , AC= , TA= , RA= ,
    DSP/ER: RD= , TD= , RC= , TC= ,DSP/IC: IC= ,.
```

In Release 9.6, the statistics are enhanced to support the DSP Voice Quality Statistics in DLCX Messages feature in Cisco IOS Release 12.4(4)T. The DSP Voice Quality Statistics feature introduces a priority setting on the media gateway that allows control of the impact of statistic generation. There are two priority values: 1, which limits the statistics generated by the media gateway, and 2, which enables all statistics to be generated.

An example of the appearance of the statistics generated when the media gateway is set to priority 1 appears below.

```
TermDSPstats…..:DSP/TX: PK=, SG=, NS=, DU=, VO=,
    DSP/RX: PK=, SG=, CF=, RX=, VO=, BS=, BP=, LP=, EP=,
    DSP/PD: CU=, MI=, MA=, CO=, IJ=,
    DSP/LE: TP=, TX=, RP=, RM=, BN=, ER=, AC=,
    DSP/EC: CI=, FM=, FP=, VS=, GT=, GR=, JD=, JN=, JM=, JX=,
    DSP/CS: CR=, AV=, MX=, CT=, TT=, OK=, CS=, SC=, TS=, DC=,
    DSP/DL: RT=, ED=
```

An example of the appearance of the statistics generated when the media gateway is set to priority 2 appears below.

```
TermDSPstats…..:DSP/TX: PK=, SG=, NS=, DU=, VO=,
        DSP/RX: PK=, SG=, CF=, RX=, VO=, BS=, BP=, LP=, EP=,
        DSP/PD: CU=, MI=, MA=, CO=, IJ=,
        DSP/PE: PC=, IC=, SC=, RM=, BO=, EE=,
        DSP/LE: TP=, TX=, RP=, RM=, BN=, ER=, AC=,
        DSP/ER: RD=, TD=, RC=, TC=,
        DSP/IC: IC=,
        DSP/EC: CI=, FM=, FP=, VS=, GT=, GR=, JD=, JN=, JM=, JX=,
        DSP/KF: KF=, AV=, MI=, BS=, NB=, FL=, NW=, VR=,
        DSP/CS: CR=, AV=, MX=, CT=, TT=, OK=, CS=, SC=, TS=, DC=,
        DSP/RF: ML=, MC=, R1=, R2=, IF=, ID=, IE=, BL=, R0=, VR=,
        DSP/UC: U1=, U2=, T1=, T2=,
        DSP/DL: RT=, ED=
```

Extended Data Value: No extended value.

General Information: This CDE is populated when a terminating endpoint is controlled by the Cisco MGC software through the MGCP protocol and the associated MGCP media gateway is enabled to send DSP statistics to the Cisco MGC.

Information on the configuring DSP voice quality statistics on the media gateway and definitions for the various fields used in the statistics can be found in the *DSP Voice Quality Statistics in DLCX Messages* feature module.

MGC Release: Release 9.4(1) and later.

Support of the DSP voice quality statistics is added in Release 9.6(1), patch CSCOnn026.

Originating Remote SIP Host (Tag: 4201)

Table 1-145 Originating Remote SIP Host Description Form

Name: Originating Remote SIP Host	**Tag:** 4201	**Source:** MDL/Engine
Description/Purpose: Formerly named as Ingress SIP URL. Contains the remote host for the originating side of a SIP-originated call (this tag is present only if SIP appears on the originating side of the call). In a simple call, this host is taken out of the From header, but if a P-Asserted or Remote Party ID header is received and has influenced the calling line information, then the host is taken from the header that provides the resultant calling line information.		
Format: IA5	**Length in Octets:** 1 to 256	
Data Value: URL		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9 and later.		

Originating Local SIP Host (Tag: 4202)

Table 1-146 Originating Local SIP Host Description Form

Name: Originating Local SIP Host	**Tag:** 4202	**Source:** MDL/Engine
Description/Purpose: Formerly named as Egress SIP URL. Contains the local host (the To Host received in a REQUEST on the originating side) of the originating side of a SIP call. This tag is present only if the originating side of the call is SIP.		
Format: IA5	**Length in Octets:** 1 to 256	
Data Value: URL		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9 and later.		

SIP Call ID (Tag: 4203)

Table 1-147 SIP Call ID Description Form

Name: SIP Call ID	**Tag:** 4203	**Source:** MDL/Engine
Description/Purpose: Unique SIP call ID used to identify the SIP call leg. Depending on the PSTN-to-SIP or SIP-to-PSTN call, the SIP call ID appears in the originating or terminating call side.		
Format: IA5	**Length in Octets:** 1 to 256	
Data Value: Generated by call originator.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9 and later.		

Source IP Address (Tag: 4204)

Table 1-148 Source IP Address Description Form

Name: Source IP Address	**Tag:** 4204	**Source:** MDL
Description/Purpose: Identifies the source that sends the call setup message in incoming SIP and H.323 calls.		
Format: IA5 (string)	**Length in Octets:** 1 to 23	
Data Value: IPV4 format. Example: 10.1.22.115.		
Extended Data Value: No extended value.		
General Information: The source IP address is used to look up a dial plan in the IP Address Table if the trunk group property, EnableIPScreening, is set to 1.		
MGC Release: Release 9.4(1) and later.		

Ingress Media Device Address (Tag: 4205)

Table 1-149 Ingress Media Device Address Description Form

Name: Ingress Media Device Address	**Tag:** 4205	**Source:** MDL
Description/Purpose: Identifies the IP address of the originating RTP end point. This is parsed from the SDP from SIP, MGCP, or EISUP (HSI).		
Format: IA5 (string)	**Length in Octets:** 1 to 256	
Data Value: IPV4 format or FQDN. Examples: 10.1.22.115, sp-46-39-gateway.customer.com.		
Extended Data Value: No extended value.		
General Information: If the ingress media device address is an IP address, it is used to look up a dial plan in the IP Address Table if the trunk group properties, EnableIPScreening and SipIPSource, are set to 1. If the call is originated in the H.323 domain as a Slow Start call, this information is not present in the 1010 CDB. If the call is originated in the H.323 domain as a Slow Start call and a switchover operation is performed on the Cisco PGW 2200, this information is not captured in any CDB.		
MGC Release: Release 9.4(1) and later.		

Egress Media Device Address (Tag: 4206)

Table 1-150 Egress Media Device Address Description Form

Name: Engress Media Device Address	**Tag:** 4206	**Source:** MDL
Description/Purpose: Identifies the IP address of the terminating RTP end point. This is parsed from the SDP from SIP, MGCP, or EISUP (HSI).		
Format: IA5 (string)	**Length in Octets:** 1 to 256	
Data Value: IPV4 format or FQDN. Examples: 10.1.22.115, sp-46-39-gateway.customer.com.		
Extended Data Value: No extended value.		
General Information: If the egress media device address is an IP address, it is used to look up a dial plan in the IP Address Table if the trunk group properties, EnableIPScreening and SipIPSource, are set to 1. If the call is terminated in the H.323 domain as a Slow Start call, this information is not present in the 1010 CDB. If the call is terminated in the H.323 domain as a Slow Start call and a switchover operation is performed on the Cisco PGW 2200, this information is not captured in any CDB.		
MGC Release: Release 9.4(1) and later.		

Initial Codec (Tag: 4207)

Table 1-151 Initial Codec Description Form

Name: Initial Codec	**Tag:** 4207	**Source:** MDL
Description/Purpose: Identifies the initial codec used for the connection (the RTP stream). This is parsed from the SDP from SIP or MGCP.		
Format: IA5 (string)	**Length in Octets:** 1 to 12	
Data Value: String. Example: PCMU If the Cisco PGW 2200 cannot determine the initial codec used for a call, it is set to UNKNOWN		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.4(1) and later.		

Final Codec (Tag: 4208)

Table 1-152 Final Codec Description Form

Name: Final Codec	**Tag:** 4208	**Source:** MDL
Description/Purpose: Identifies the final codec used for the connection (the RTP stream). This is parsed from the SDP from SIP or MGCP.		
Format: IA5 (string)	**Length in Octets:** 1 to 12	
Data Value: String. Example: PCMU If the Cisco PGW 2200 cannot determine the final codec used for a call, it is set to UNKNOWN		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.4(1) and later.		

Ingress Media Device Port (Tag: 4209)

Table 1-153 Ingress Media Device Port Description Form

Name: Ingress Media Device Port	**Tag:** 4209	**Source:** MDL
Description/Purpose: Identifies the ingress RTP port involved in the connection.		
Format: IA5 (string)	**Length in Octets:** 1 to 6	
Data Value: String. Example: 66218		
Extended Data Value: No extended value.		
General Information: If the call is originated in the H.323 domain as a Slow Start call, this information is not present in the 1010 CDB. If the call is originated in the H.323 domain as a Slow Start call and a switchover operation is performed on the Cisco PGW 2200, this information is not captured in any CDB.		
MGC Release: Release 9.4(1) and later.		

Egress Media Device Port (Tag: 4210)

Table 1-154 Egress Media Device Port Description Form

Name: Engress Media Device Port	**Tag:** 4210	**Source:** MDL
Description/Purpose: Identifies the egress RTP port involved in the connection.		
Format: IA5 (string)	**Length in Octets:** 1 to 6	
Data Value: String. Examples: 1024, 58890.		
Extended Data Value: No extended value.		
General Information: If the call is terminated in the H.323 domain as a Slow Start call, this information is not present in the 1010 CDB. If the call is terminated in the H.323 domain as a Slow Start call and a switchover operation is performed on the Cisco PGW 2200, this information is not captured in any CDB.		
MGC Release: Release 9.4(1) and later.		

Originating VPN ID (Tag: 4211)

Table 1-155 Originating VPN ID Description Form

Name: Originating VPN ID	**Tag:** 4211	**Source:** MDL
Description/Purpose: Identifies the VPN customer ID associated with the incoming trunk group or signaling service. It is used for feature transparency with access protocols DPNSS and QSIG.		
Format: IA5	**Length in Octets:** 8	
Data Value: Alphanumeric string. It is associated with DPNSS and QSIG trunk groups. Example: BTFNET1		
Extended Data Value: No extended value.		
General Information: The inclusion of this tag is based upon the presence on a VPN ID associated with the incoming trunk group. Note: If the incoming trunk group is EISUP, the VPN ID of the incoming trunk group of the remote Cisco PGW 2200 is used (if present).		
MGC Release: Release 9.4(1) and later.		

Terminating VPN ID (Tag: 4212)

Table 1-156 Terminating VPN ID Description Form

Name: Terminating VPN ID	**Tag:** 4212	**Source:** MDL
Description/Purpose: Identifies the VPN customer ID associated with the outgoing trunk group or signaling service. It is used for feature transparency with access protocols DPNSS and QSIG.		
Format: IA5	**Length in Octets:** 8	
Data Value: Alphanumeric string. It is associated with DPNSS and QSIG trunk groups. Example: BTFNET1		
Extended Data Value: No extended value.		
General Information: The inclusion of this tag is based upon the presence on a VPN ID associated with the outgoing trunk group. Note: If the outgoing trunk group is EISUP, the VPN ID of the outgoing trunk group of the remote Cisco PGW 2200 is used (if present).		
MGC Release: Release 9.4(1) and later.		

Meter Pulses Received (Tag: 4213)

Table 1-157 Meter Pulses Received Description Form

Name: Meter Pulses Received	**Tag:** 4213	**Source:** MDL
Description/Purpose: Contains the total number of meter pulses received at the terminating side of the call.		
Format: BE	**Length in Octets:** 4	
Data Value: Integer value in the range: 0 to 2^{32}-1		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Meter Pulses Sent (Tag: 4214)

Table 1-158 Meter Pulses Sent Description Form

Name: Meter Pulses Sent	**Tag:** 4214	**Source:** MDL
Description/Purpose: Contains the total number of meter pulses sent to the originating side of the call.		
Format: BE	**Length in Octets:** 4	
Data Value: Integer value in the range: 0 to 2^{32}-1		
Extended Data Value: No extended value.		
General Information: The total pulses comprise those meter pulses generated internally and those transitted by the MGC.		
MGC Release: Release 9.5(2) and later.		

Charge Tariff Info (Tag: 4215)

Table 1-159 Charge Tariff Info Description Form

Name: Charge Tariff Info	**Tag:** 4215	**Source:** MDL
Description/Purpose: Contains Charging Tariff Information that has been sent or received in MPM messages. It comprises the following data items: • tariff type sent • tariff type received • tariff id (timestamped) – may be repeated (up to 11 occurrences).		
Format: BE	**Length in Octets:** 8, 14, 20, 26, 32, 38, 44, 50, 56, 62, or 68	
Data Value: Octet 1: integer value, range of 0-15 (tariff type sent) Octet 2: integer value range of 0-15 (tariff type received) Octets 3-4: integer value range of 0-512 (tariff id) Octets 5-8: Time in UNIX format (timestamp associated with tariff id in octets 3-4)		
Extended Data Value: No extended value.		
General Information: Octets 3-8 may be repeated up to 11 times to allow for up to 11 tariff changes during the call. Timestamps in octets 5-8 is in Unix format (as CDB Timepoint tag 4001).		
MGC Release: Release 9.5(2) and later.		

Advice of Charge Indicator (Tag: 4216)

Table 1-160 Advice of Charge Indicator Description Form

Name: Advice of Charge Indicator	**Tag:** 4216	**Source:** MDL
Description/Purpose: Used to record the status of the AOC field of the charging information sent in MPM messages, either *charge* or *advice of charge*.		
Format: BE	**Length in Octets:** 1	
Data Value: 0 = Charge Information 1 = Advice Of Charge Only		
Extended Data Value: No extended value.		
General Information: This tag is a record of what was contained in the AOC indicator field of the MPM messages sent, based on information obtained from either the meter pulse tariff table or received messages.		
MGC Release: Release 9.5(2) and later.		

Short Call Indicator (Tag: 4217)

Table 1-161 Short Call Indicator Description Form

Name: Short Call Indicator	**Tag:** 4217	**Source:** MDL
Description/Purpose: Used to indicate that a call was a short duration call.		
Format: BE	**Length in Octets:** 1	
Data Value: 1 = Short Call.		
Extended Data Value: No extended value.		
General Information: The actual period for the timer used to identify short duration calls is configurable between 1 and 30 seconds. This tag is only added to the CDB if the length of the call falls within the defined timeframe.		
MGC Release: Release 9.5(2) and later.		

Charge Limit Exceeded (Tag: 4218)

Table 1-162 Charge Limit Exceeded Description Form

Name: Charge Limit Exceeded	**Tag:** 4218	**Source:** MDL
Description/Purpose: Indicates that a call has exceeded the maximum duration permitted and has been cleared.		
Format: BE	**Length in Octets:** 1	
Data Value: 1 = Charge Limit Exceeded		
Extended Data Value: No extended value.		
General Information: For calls involving charging there is a maximum call duration timer maintained by the CDR manager. If this timer expires, the call is cleared and *Charge Limit Exceeded* is recorded in this tag. The value used for the timer is obtained from the tariff table or the ApplyCharging SCP procedure. This tag is only added to the CDB if the charge limit is exceeded.		
MGC Release: Release 9.5(2) and later.		

Call Recovered Indication (Tag: 4219)

Table 1-163 Call Recovered Indication Description Form

Name: Call Recovered Indication	**Tag:** 4219	**Source:** MDL
Description/Purpose: Indicates that the call was recovered by the standby MGC host following an automatic switchover and may have been released.		
Format: BE	**Length in Octets:** 1	
Data Value: 1 = Call Recovered 2 = Call Recovered and Released		
Extended Data Value: No extended value.		
General Information: Non-IN calls are recovered by the standby MGC host and continue normally following an automatic switchover. IN Calls are recovered by the standby MGC host but are then released gracefully. This tag is used to record either of these events. This tag is not included in the CDB for normal calls (that is, not recovered).		
MGC Release: Release 9.5(2) and later.		

Partial Calling Line Identity (Tag: 4220)

Table 1-164 Partial Calling Line Identity Description Form

Name: Partial Calling Line Identity (PCLI)	**Tag:** 4220	**Source:** MDL
Description/Purpose: The Partial Calling Line Identity, being sent out on-line by the MGC, is recorded in this tag. This value is generated by MGC in case CLI information is not received from the incoming call.		
Format: Hexidecimal	**Length in Octets:** 9	
Data Value: It holds the Partial CLI parameter content, which has the following format: Type of Switch (0-99) PNO Identity (0-999) Switch Number(0-999) For bilateral agreement For bilateral agreement For bilateral agreement For bilateral agreement For bilateral agreement The “For bilateral agreement” octets contain either the IP address or the trunk group and member of the incoming call.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Service Activation (Tag: 4221)

Table 1-165 Service Activation Description Form

Name: Service Activation	**Tag:** 4221	**Source:** MDL
Description/Purpose: Allows the user to determine which supplementary services have been invoked by the user or MGC.		
Format: BE	**Length in Octets:** 1	
Data Value: Service Activation information is 1 Octet and is defined as follows: AOC – S : 1 AOC – D: 2 AOC – E: 3 AOC – S and AOC - D: 4 AOC – S and AOC - E: 5 AOC – D and AOC – E: 6 AOC – S, AOC – D and AOC – E : 7 Call Back Request: 8 (added in Release 9.6(1)) Call Back Cancellation: 9 (added in Release 9.6(1)) Call Back Notification: 10 (added in Release 9.6(1)) Extension Status: 11 (added in Release 9.6(1))		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

PRI AOC Invoke Type (Tag: 4222)

Table 1-166 PRI AOC Invoke Type Description Form

Name: PRI AOC Invoke Type	**Tag:** 4222	**Source:** MDL
Description/Purpose: Allows the user to determine whether the supplementary services were invoked due to receipt of an invoke component from user (*PER CALL*) or has been configured to be set up for all PRI calls (*ALL CALLS*).		
Format: BE	**Length in Octets:** 1	
Data Value: PRI AOC Invoke Type information is 1 Octet and is defined as follows: PER CALL: 1 ALL CALLS: 2		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

PRI AOC – S Charge Information (Tag: 4223)

Table 1-167 PRI AOC – S Charge Information Description Form

Name: PRI AOC – S Charge Information	**Tag:** 4223	**Source:** MDL
Description/Purpose: Contains Charging Tariff Information that has been setup for AOC – S Supplementary services. It comprises the following data items: • tariff id and timestamped (from octet 1–6) may be repeated (up to 11 occurrences). The repetition depends on the number of different tariffs applied for a given call and the maximum number of tariffs allowed per day is 11.		
Format: BE	**Length in Octets:** 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, or 66	
Data Value: Octets 1-2: integer value range 0-9999 (tariff id) Octets 3-6: Time in UNIX format (timestamp associated with tariff id in octets 1-2)		
Extended Data Value: No extended value.		
General Information: Octets 1-6 may be repeated up to 11 times to allow for up to 11 tariff changes during the call. Timestamps in octets 3-6 is in Unix format (as CDB Timepoint tag 4001).		
MGC Release: Release 9.5(2) and later.		

PRI AOC – D Charge Information (Tag: 4224)

Table 1-168 PRI AOC – D Charge Information Description Form

Name: PRI AOC – D Charge Information	**Tag:** 4224	**Source:** MDL
Description/Purpose: Contains Charging Tariff Information that has been setup for AOC – D Supplementary services. It comprises the following data items: • tariff id and timestamped (from octet 5–10) may be repeated (up to 11 occurrences). The repetition depends on the number of different tariffs applied for a given call and the maximum number of tariffs allowed per day is 11.		
Format: BE	**Length in Octets:** 10, 16, 22, 28, 34, 40, 46, 52, 58, 64, or 70	
Data Value: Octets 1-4 : Total Charge (integer value) Octets 5-6: integer value range 0-9999 (tariff id) Octets 7-10: Time in UNIX format (timestamp associated with tariff id in octets 5-6)		
Extended Data Value: No extended value.		
General Information: Octets 1-6 may be repeated up to 11 times to allow for up to 11 tariff changes during the call. Timestamps in octets 3-6 is in Unix format (as CDB Timepoint tag 4001).		
MGC Release: Release 9.5(2) and later.		

PRI AOC – E Charge Information (Tag: 4225)

Table 1-169 PRI AOC – E Charge Information Description Form

Name: PRI AOC – E Charge Information	**Tag:** 4225	**Source:** MDL
Description/Purpose: Contains Charging Tariff Information that has been setup for AOC – E Supplementary services. It comprises the following data items: • tariff id and timestamped (from octet 5–10) may be repeated (up to 11 occurrences). The repetition depends on the number of different tariffs applied for a given call and the maximum number of tariffs allowed per day is 11.		
Format: BE	**Length in Octets:** 10, 16, 22, 28, 34, 40, 46, 52, 58, 64, or 70	
Data Value: Octets 1-4 : Total Charge (integer value) Octets 5-6: integer value range 0-9999 (tariff id) Octets 7-10: Time in UNIX format (timestamp associated with tariff id in octets 5-6)		
Extended Data Value: No extended value.		
General Information: Octets 5-10 may be repeated up to 11 times to allow for up to 11 tariff changes during the call. Timestamps in octets 7-10 is in Unix format (as CDB Timepoint tag 4001).		
MGC Release: Release 9.5(2) and later.		

PRI AOC Invoke Failure (Tag: 4226)

Table 1-170 PRI AOC Invoke Failure Description Form

Name: PRI AOC Invoke Failure	**Tag:** 4226	**Source:** MDL
Description/Purpose: PRI AOC Invoke Failure information is sent to the PRI user in case of failure to setup the charge. The same information is recorded in this tag for each of the three AOC supplementary services.		
Format: BE	**Length in Octets:** 3	
Data Value: PRI AOC Invoke Failure Type information is three octets and is defined as follows: Octet 1: AOC – S Failure Type Octet 2: AOC – D Failure Type Octet 3: AOC – E Failure Type Each octet can have the following values: 1 = INVALID CALL STATE 2 = NOT SUBSCRIBED 3 = CHARGE NOT AVAILABLE		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.5(2) and later.		

Route Optimization/Path Replacement Action (Tag: 4227)

Table 1-171 'Route Optimization/Path Replacement Action

Name: RO/PR EXECUTED	**Tag:** 4227	**Source:** MDL
Description/Purpose: Indicates that the RO or PR service has resulted in the replacement of media channels.		
Format: Integer	**Length in Octets:** 1	
Data Value: RO/PR operation = 1 indicates RO/PR feature invocation. RO/PR operation = 2 indicates receipt of RO/PR feature invocation. RO/PR operation = 3 indicates RO/PR feature loop back call (combined originating and terminating). RO/PR operation = 4 indicates an incoming (originating) RO/PR slave half call. RO/PR operation = 5 indicates an outgoing (terminating) RO/PR slave half call.		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.6(1) and later.		

Route Optimization/Path Replacement Call Reference of Associated Call Instance (Tag: 4228)

Table 1-172 Route Optimization/Path Replacement Call Reference

Name: RO/PR Other Call Ref	**Tag:** 4228	**Source:** MDL
Description/Purpose: Indicates the call reference of the associated call instance.		
Format: Integer	**Length in Octets:** 8	
Data Value: See CDE 4002 for more information.		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.6(1) and later.		

Route Optimization/Path Replacement Trunk Group Info (Tag: 4229)

Table 1-173 Route Optimization/Path Replacement Trunk Group Info

Name: RO/PR Replacement Trk Group	**Tag:** 4229	**Source:** MDL
Description/Purpose: Indicates the trunk group id of the new replaced media channel associated with the slave call reference.		
Format: Integer	**Length in Octets:** 2	
Data Value: See CDE 4008 for more information.		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.6(1) and later.		

Route Optimization/Path Replacement Channel Info (Tag: 4230)

Table 1-174 Route Optimization/Path Replacement Channel Info

Name: RO/PR Replacement Chan ID	**Tag:** 4230	**Source:** MDL
Description/Purpose: Indicates that the channel id of the new media path associated with the slave call reference.		
Format: Integer	**Length in Octets:** 2	
Data Value: See CDE 4009 for more information.		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.6(1) and later.		

Route Optimization Switchover Timestamp (Tag: 4231)

Table 1-175 Route Optimization Switchover Timestamp

Name: RO/PR Switchover Timestamp	**Tag:** 4231	**Source:** MDL
Description/Purpose: Indicates the point in time that media replacement occurred.		
Format: Integer	**Length in Octets:** 4	
Data Value: Time in UNIX format. See CDE 4001.		
ANSI/ITU Variations: None.		

Table 1-175 Route Optimization Switchover Timestamp (continued)

Extended Data Value: No extended value.
General Information:
MGC Release: Release 9.6(1) and later.

Rejecting Location Label (Tag: 4232)

Table 1-176 Rejecting Location Label Description Form

Name: Rejecting Location Label	**Tag:** 4232	**Source:** MDL
Description/Purpose: Name of the Call-limiting location label which caused the call rejection.		
Format: IA5 (string)	**Length in Octets:** 1–20	
Data Value: String Example: londonVpnUser652		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information: For calls with location labels defined, a call limiting check must be made once the terminating side is set up. This involves reading internal tables to get call limit data and active call counter data. If the call limit threshold is reached, then the call is rejected against that location label. This record provides the identity of the location label that failed the call. This tag is only added to the CDB if the call limiting check results in rejection.		
MGC Release: Release 9.6(1) and later.		

Rejecting Location Label Direction (Tag: 4233)

Table 1-177 Rejecting Location Label Direction Form

Name: Rejecting Location Label Direction	**Tag:** 4233	**Source:** MDL
Description/Purpose: Indication of whether or not the call was rejected by a location label relating to the MGC originating (incoming) or terminating (outgoing) side.		
Format: BE	**Length in Octets:** 1	
Data Value: 1 = Inbound (MGC originating side) 2 = Outbound (MGC terminating side)		
ANSI/ITU Variations: None.		

Table 1-177 Rejecting Location Label Direction Form (continued)

Extended Data Value: No extended value.	
General Information: For calls with location labels defined, a call admission check must be made once the terminating side is set up. This involves reading internal tables to get call limit data and active call counter data. If the call limit threshold is reached, then the call is rejected against that location label. This record provides an indication of whether or not this call rejection was assigned to the MGC originating (inbound) or MGC terminating (outbound) side. This tag is added to the CDB only if the call admission check results in rejection.	
MGC Release: Release 9.6(1) and later.	

Total Circuit Count (Tag: 4234)

Table 1-178 Total Circuit Count Description Form

Name: Total Circuit Count	**Tag:** 4234	**Source:** Engine
Description/Purpose: Identifies the total circuits (CICs) defined for a trunk group or signaling service.		
Format: BE	**Length in Octets:** 4	
Data Value: 0 or greater (unsigned)		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.4(1) patch and later.		

Total Circuits Unavailable Count (Tag: 4235)

Table 1-179 Total Circuits Unavailable Count Description Form

Name: Total Circuits Unavailable Count	**Tag:** 4235	**Source:** Engine
Description/Purpose: Identifies the total circuits (CICs) currently unavailable within a trunk group or SigPath. The definition of unavailable is a circuit that is either “blocked” or “OOS”. A circuit that is already blocked, but which then goes OOS, is not reported additionally as unavailable, since it was already unavailable.		
Format: BE	**Length in Octets:** 4	
Data Value: 0 or greater		
ANSI/ITU Variations: None.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.4(1) patch and later.		

H323 Destination (Tag 4236)

Table 1-180 H323 Destination Description Form

Table 1:

Name: H323 Destination	**Tag:** 4236	**Source:** MDL
Description/Purpose: Identifieds the H323 Destination Address associated with the terminal trunk group or sigPath.		
Format: IA5	**Length in Octet:** 1 to 29	
Data Value: Content: [IP Address]:[Port]		
Extended Data Value: No extended value.		
General Information: This destination address is used to indicate the H323 address that was used in Non-RAS mode. So this address will be the same as H323PriAddr:H323PriPort or H323AltAddr:H323AltPort that are defined in sigPath/Trunkgroup property.		
MGC Release: Release 9.7.		

Ingress Redirecting Number (Tag 4237)

Table 1-181 Ingress Redirecting Number Description Form

Name: Ingress Redirecting Number	**Tag:** 4237	**Source:** MDL/Engine
Description/Purpose: This CDE records the digits from the redirecting number received by the MGC.		
Format: IA5	**Length in Octet:** 1	
Data Value: Character string containing the forwarded station's address or subscriber number.		
Extended Data Value: No extended value.		
General Information: **Note** This CDE is present in the 1060 CDB if the End-of-Call CDB (1110) is configured. For point-in-call mode, the 1060 CDB is usually a short one and does not contain this CDB.		
MGC Release: Release 9.5(2) patch xx.		

Service Usage Data (Tag 4239)

Table 1-182 Service Usage Data Description Form

Name: Service Usage Data	**Tag:** 4239	**Source:** MDL
Description/Purpose: Indicates services invoked or transited using the feature inter-working containers.		
Format: Structured variable	**Length in Octet:** 2	
Data Value: Octet 1: **Service Name** 1= MWI (Message Waiting Indicator) , 2=SSCT (Single Step Call Transfer), 3= RO (Route Optimization), 4=Call Transferred, 5=CB (Busy) Request, 6=CB (No replay) Request, 7=CB Free Notification, 8=CB Call Setup, 9=CB Cancel, 10=Extension Status, 11=Call Diversion (unconditional), 12=Call Diversion (busy), 13=Call Diversion (no reply) Octet 2: **Service Action** 1=Request, 2=Executed, 3=Rejected, 4=Activate, 5=Deactivate, 6=Initiated		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1030, 1040, 1110. This CDE is not present in the following CDBs: 1010, 1020, 1050, 1060, 1070, 1080, 1111.		
MGC Release: Release 9.7.		

CNAM DIP (Tag 4240)

Table 1-183 CNAM DIP Description Form

Name: CNAM DIP	**Tag:** 4240	**Source:** MDL
Description/Purpose: This feature indicates whether a called party has subscribed to the Calling Name Delivery (CNAM) feature. The feature allows the name of the calling party to be delivered to the called party.		
Format: Structured Variable	**Length in Octet:** 2	
Data Value: Indicates whether the CNAM feature is invoked by the called party. Octet 1: **Query Indicator** 0 = CNAM not invoked, 1 = CNAM invoked Octet 2: **Query Result Indicator** 0 = Success, 1 = Return Error, 2 = Return Reject, 3 = Query Timeout, 4 = Query Abandon		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1010, 1030, 1040, 1100. This CDE is not present in the following CDBs: 1020, 1050, 1060, 1070, 1080, 1111.		
MGC Release: Release 9.7.		

Calling Party Name (Tag 4241)

Table 1-184 Calling Name Description Form

Name: Calling Name	**Tag:** 4241	**Source:** MDL
Description/Purpose: The calling party name (CNAM) is provided via the SCP or orignal call setup message. The CNAM is then passed to the egress destination if permitted based on CNAB and CIDS information. Calling Name is a terminating feature.		
Format: Structured Variable	**Length in Octet:** 1-15	
Data Value: Characters of calling name displayed on the terminating side. Example: Bob Johnson		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1010, 1030, 1040, 1100. This CDE is not present in the following CDBs: 1020, 1050, 1060, 1070, 1080, 1111.		
MGC Release: Release 9.7.		

Terminating Remote SIP Host (Tag 4242)

Table 1-185 Terminating Remote SIP Host Description Form

Name: Terminating Remote SIP Host	**Tag:** 4242	**Source:** MDL/Engine
Description/Purpose: Contains the remote host (the To Host for a SIP call when sending a REQUEST from the PGW on the terminating side) for the terminating side of a call. This tag is present only if SIP appears on the terminating side of the call		
Format: IA5	**Length in Octet:** 1-256	
Data Value: URL		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.7(3)		

Terminating Local SIP Host (Tag 4243)

Table 1-186 Terminating Local SIP Host Description Form

Name: Terminating Local SIP Host	**Tag:** 4243	**Source:** MDL/Engine
Description/Purpose: Contains the local host (the From Host for a SIP call when sending a REQUEST from the PGW on the terminating side) for the terminating side of a call. This tag is present only if the terminating side of the call is SIP.		
Format: IA5	**Length in Octet:** 1-256	
Data Value: URL		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 9.7(3)		

License Rejecting Reason (Tag 4244)

Table 1-187 License Rejecting Reason Description Form

Name: License Rejecting Reason	**Tag:** 4244	**Source:** MDL
Description/Purpose: Description of the reason for the call rejection due to license management.		
Format: IA5(string)	**Length in Octet:** 1-20	
Data Value: String. Example: “SS7 Interface”		
Extended Data Value: No extended value.		
General Information: The PGW performs a license check for calls with License Control. If the license limit threshold is reached or no license exists for the protocol interface, the call will be rejected. This record provides the identity of the License that the call failed to meet. This CDE is present in the following CDBs: 1030, 1110. This CDE is not present in the following CDBs: 1010, 1020, 1040, 1050, 1060, 1070, 1080. **Note** This tag is only added to the CDB if the call admission check results in rejection.		
MGC Release: Release 9.7(3).		

License Rejecting Direction (Tag 4245)

Table 1-188 License Rejecting Direction Description Form

Name: License Rejecting Direction	**Tag:** 4245	**Source:** MDL
Description/Purpose: Indication of whether the call rejection was due to a license violation from incoming or outgoing traffic to the PGW.		
Format: BE	**Length in Octet:** 1	
Data Value: 1 = Inbound (PGW originating side) 2 = Outbound (PGW terminating side)		
Extended Data Value: No extended value.		
General Information: The PGW performs a license check for calls with License Control. If the license limit threshold is reached or no license exists for the protocol interface, the call will be rejected. This record provides an indication of whether the call rejection was due to a license violation from incoming or outgoing traffic to the PGW. This CDE is present in the following CDBs: 1030, 1110. This CDE is not present in the following CDBs: 1010, 1020, 1040, 1050, 1060, 1070, 1080. **Note** This tag is only added to the CDB if the call admission check results in rejection.		
MGC Release: Release 9.7(3).		

SIP Transport (Tag 4246)

Table 1-189 SIP Transport Description Form

Name: SIP Transport	**Tag:** 4246	**Source:** MDL
Description/Purpose: Indicates the transport protocol that the PGW uses for SIP messages.		
Format: Structured variable	**Length in Octet:** 1	
Data Value: 1 = UDP (Default) 2 = TCP		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1030, 1110. This CDE is not present in the following CDBs: 1010, 1020, 1040, 1050, 1060, 1070, 1080, 1100, 1111.		
MGC Release: Release 9.7.		

SIP Routing URI Source (Tag 4247)

Table 1-190 SIP Routing URI Source Description Form

Name: SIP Routing URI Source	**Tag:** 4247	**Source:** MDL/Engine
Description/Purpose: Indicates which header or URL was used to make routing decisions.		
Format: Integer	**Length in Octet:** 1	
Data Value: 1 = Top Route: header 2 = Request URL 3 = To: Header		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1010, 1030, 1100. This CDE is not present in the following CDBs: 1020, 1040, 1050, 1060, 1070, 1080.		
MGC Release: Release 9.7.		

SIP Routing URI (Tag 4248)

Table 1-191 SIP Routing URI Description Form

Name: SIP Routing URI	**Tag:** 4248	**Source:** MDL/Engine
Description/Purpose: Contains the original URI used in the initial routing decisions.		
Format: IA5	**Length in Octet:** 1-256	
Data Value: URL		
Extended Data Value: No extended value.		
General Information: This CDE is present in the following CDBs: 1010, 1030, 1100. This CDE is not present in the following CDBs: 1020, 1040, 1050, 1060, 1070, 1080.		
MGC Release: Release 9.7.		

Millisecond Granularity CDEs

IAM Timepoint Received_ms (Tag: 4100)

Table 1-192 IAM Timepoint Received_ms Description Form

Name: IAM Timepoint Received_ms	**Tag:** 4100	**Source:** MDL/Engine
Description/Purpose: The IAM timepoint received is the recorded timepoint when the IAM was received, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

IAM Timepoint Sent_ms (Tag: 4101)

Table 1-193 IAM Timepoint Sent_ms Description Form

Name: IAM Timepoint Sent_ms	**Tag:** 4101	**Source:** MDL/Engine
Description/Purpose: The IAM timepoint sent is the recorded timepoint when the IAM was sent, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

ACM Timepoint Received_ms (Tag: 4102)

Table 1-194 ACM Timepoint Received_ms Description Form

Name: ACM Timepoint Received_ms	**Tag:** 4102	**Source:** MDL/Engine
Description/Purpose: The ACM timepoint received is the recorded timepoint when the ACM was received, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

ACM Timepoint Sent_ms (Tag: 4103)

Table 1-195 ACM Timepoint Sent_ms Description Form

Name: ACM Timepoint Sent_ms	**Tag:** 4103	**Source:** MDL/Engine
Description/Purpose: The ACM timepoint sent is the recorded timepoint when the ACM was sent, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

ANM Timepoint Received_ms (Tag: 4104)

Table 1-196 ANM Timepoint Received_ms Description Form

Name: ANM Timepoint Received_ms	**Tag:** 4104	**Source:** MDL/Engine
Description/Purpose: Recorded timepoint when the ANM was received, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

ANM Timepoint Sent_ms (Tag: 4105)

Table 1-197 ANM Timepoint Sent_ms Description Form

Name: ANM Timepoint Sent_ms	**Tag:** 4105	**Source:** MDL/Engine
Description/Purpose: Recorded timepoint when the ANM was sent, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds,		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

First REL Timepoint_ms (Tag: 4106)

Table 1-198 First REL Timepoint_ms Description Form

Name: First REL Timepoint_ms	**Tag:** 4106	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of first REL/RELEASE.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Second REL Timepoint _ms (Tag: 4107)

Table 1-199 Second REL Timepoint _ms Description Form

Name: Second REL Timepoint_ms	**Tag:** 4107	**Source:** MDL/Engine
Description/Purpose: Timepoint for receipt of second REL/RELEASE.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

RLC Timepoint Received_ms (Tag: 4108)

Table 1-200 RLC Timepoint Received_ms Description Form

Name: RLC Timepoint Received_ms	**Tag:** 4108	**Source:** MDL/Engine
Description/Purpose: Recorded timepoint when the RLC was received, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

RLC Timepoint Sent_ms (Tag: 4109)

Table 1-201 RLC Timepoint Sent_ms Description Form

Name: RLC Timepoint Sent_ms	**Tag:** 4109	**Source:** MDL/Engine
Description/Purpose: Recorded timepoint when the RLC was sent, in milliseconds since 1970.		
Format: Binary	**Length in Octets:** 6	
Data Value: Cisco MGC time plus 2 bytes for milliseconds.		
Extended Data Value: No extended value.		
General Information:		
MGC Release: Release 7.0 and later.		

Cisco Reserved CDEs

Unique Call Correlator ID (Tag: 5000)

Table 1-202 Unique Call Correlator ID Description Form

Name: Unique Call Correlator ID	**Tag:** 5000	**Source:** MDL/Engine/External

Description/Purpose: A Unique Call ID can be created by an MGC or a media gateway, depending on the origin of a call. The purpose of this field is to uniquely identify a single call across a multinode Cisco MGC solution, and/or to provide a common key for all involved recording systems. This information can be used to associate external billing information, such as RADIUS records, and correlate multiple Cisco MGCs to what is considered a single call. The records created by the various network elements can be used by downstream systems (that is, mediation) after correlation for billing and other purposes.

Format: Structured variable	**Length in Octets:** 16

Octet	Field	Bits	Value	Meaning
1 – 4	time_low	8 – 1	Unsigned 32-bit integer	The low field of the timestamp
5 – 6	time_mid	8 – 1	Unsigned 16-bit integer	The middle field of the timestamp
7 – 8	time_hi_and_version	8 – 1	Unsigned 16-bit integer	The high field of the timestamp multiplexed with the version number
9	clock_seq_hi_and_ reserved	8 – 1	Unsigned 8-bit integer	The high field of the clock sequence multiplexed with the variant
10	clock_seq_low	8 – 1	Unsigned 8-bit integer	The low field of the clock sequence
11 – 16	node	8 – 1	Unsigned 48-bit integer	The spatially unique node identifier

Data Value:

The timestamp contains the number of 100 nanosecond intervals since October 15, 1582.

The spatially unique node identifier contains the hardware address of the system primary Ethernet adapter.

See ITU-T Recommendation H.225.0 for further details.

Extended Data Value: No extended value.

General Information: This field is required in every CDB.

MGC Release: Release 9.0 and later.	

Miscellaneous Fields

MGC ID (Tag: 6000)

Table 1-203 MGC ID Description Form

Name: MGC ID	**Tag:** 6000	**Source:** CDR Dumper
Description/Purpose: Indicates the MGC ID on which the CDR file was created.		
Format: IA5	**Length in Octets:** 1-32	
Data Value: IA5 string		
Extended Data Value: No extended value.		
General Information: This field is used (only) by the CDR dumper to generate the file header CDB record and the file footer CDB record.		
MGC Release: Release 7.0 and later.		

File Start Time (Tag: 6001)

Table 1-204 File Start Time Description Form

Name: File Start Time	**Tag:** 6001	**Source:** CDR Dumper
Description/Purpose: Indicates the start time of a CDR file timespan.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This field is created by the CDR dumper to generate the file header CDB record.		
MGC Release: Release 7.0 and later.		

File End Time (Tag: 6002)

Table 1-205 File End Time Description Form

Name: File End Time	**Tag:** 6002	**Source:** CDR Dumper
Description/Purpose: Indicates the end time of a CDR file timespan.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This field is created by the CDR dumper to generate the file footer CDB record.		
MGC Release: Release 7.0 and later.		

Total Number of CDB Records (Tag: 6003)

Table 1-206 Total Number of CDB Records Description Form

Name: Total Number of CDB Records	**Tag:** 6003	**Source:** CDR Dumper
Description/Purpose: Indicates the total number of CDB records included in the CDR file.		
Format: BE	**Length in Octets:** 4	
Data Value: UNIX time format (number of seconds since January 1, 1970).		
Extended Data Value: No extended value.		
General Information: This field is created by the CDR dumper to generate the file footer CDB record.		
MGC Release: Release 7.0 and later.		

MGC Version (Tag: 6004)

Table 1-207 MGC Version Description Form

Name: MGC Version	**Tag:** 6004	**Source:** CDR Dumper
Description/Purpose: Indicates the Cisco MGC software version.		
Format: ASCII	**Length in Octets:** 10	
Data Value: ASCII string		
Extended Data Value: No extended value.		
General Information: This field is used (only) by the CDR dumper to generate the file header CDB record and the file footer CDB record.		
MGC Release: Release 7.0 and later.		

Interim CDB (Tag: 6005)

Table 1-208 Interim CDB Description Form

Name: Interim CDB	**Tag:** 6005	**Source:** MDL
Description/Purpose: Indicates that this is an interim CDB and there are further CDBs to follow for this call.		
Format: BE	**Length in Octets:** 1	
Data Value: 1 = Interim CDB - further CDBs to follow		
Extended Data Value: No extended value.		
General Information: Used when sending multiple CDBs to indicate that there are further CDBs to be sent that are associated with this call ID.		
MGC Release: Release 9.5(2) and later.		

Protocol Specific CDEs

NTT

TTC Contract Number (Tag: 6100)

Table 1-209 TTC Contract Number Description Form

Name: TTC Contract Number	**Tag:** 6100	**Source:** MDL
Description/Purpose: Digits from the Contract Number Parameter of TTC-Q763a.		
Format: IA5	**Length in Octets:** 3 to 12	
Data Value: Digits		
Extended Data Value: No extended value.		
General Information: This field is used (only) when the Cisco MGC is configured with the TTC signaling protocol.		
MGC Release: Release 7.0 and later.		

TTC Contract Number NOA (Tag: 6101)

Table 1-210 TTC Contract Number NOA Description Form

Name: TTC Contract Number NOA	**Tag:** 6101	**Source:** MDL
Description/Purpose: Nature of Address field of Contract Number Parameter from TTC-Q.763a.		
Format: IA5	**Length in Octets:** 1	
Data Value: 1 octet		
Extended Data Value: No extended value.		
General Information: This field is used (only) when the Cisco MGC is configured with the TTC signaling protocol.		
MGC Release: Release 7.0 and later.		

TTC Charge Info (Tag: 6102)

Table 1-211 TTC Charge Info Description Form

Name: TTC Charge Info	**Tag:** 6102	**Source:** MDL
Description/Purpose: From TTC-Q.763a Charge Information Parameter.		
Format: IA5	**Length in Octets:** 3 to *n*, where the field configuration is specified separately for each network	
Data Value: Sequence of octets		
Extended Data Value: No extended value.		
General Information: This field is used (only) when the Cisco MGC is configured with the TTC signaling protocol.		
MGC Release: Release 7.0 and later.		

TTC Charge Info Type (Tag: 6103)

Table 1-212 TTC Charge Info Type Description Form

Name: TTC Charge Info Type	**Tag:** 6103	**Source:** MDL
Description/Purpose: This parameter is taken from the TTC-Q.763a Charge Information parameter.		
Format: IA5	**Length in Octets:** 3 to *n*, where the field configuration is specified separately for each network	
Data Value: Sequence of octets		
Extended Data Value: No extended value.		
General Information: This field is used (only) when the Cisco MGC is configured with the TTC signaling protocol.		
MGC Release: Release 7.0 and later.		

TTC Charge Area Info (Tag: 6104)

Table 1-213 TTC Charge Area Info Description Form

Name: TTC Charge Area Info	**Tag:** 6104	**Source:** MDL
Description/Purpose: This parameter is taken from the TTC-Q.763a Charge Originating Info parameter.		
Format: IA5	**Length in Octets:** 3 to 6	
Data Value: Sequence of octets		
Extended Data Value: No extended value.		
General Information: This field is used (only) when the Cisco MGC is configured with the TTC signaling protocol.		
MGC Release: Release 7.0 and later.		

CHAPTER 2

MGC Info Field Reference

This chapter provides additional information about the MGC Info Field (Tag 4031), described in Chapter 1, "Billing Interfaces" The MGC info field consists of several subfields, that are stored in the value section of the VSC info field. These subfields contain no tags or values. The MGC Info field provides the customer with backward compatibility to Cisco MGC Software Release 5.0 and earlier.

MGC Info Subfields

Table 2-1 describes each MGC Info subfield, including its exact position in the value section of the VSC info field.

Table 2-1 MGC Info Subfields

Field Name	Description	Value/Encoding Scheme	Location (Position)	Size
In Signal path ID	This is the ID for the originating Signal Path	C7 – Component ID for the Point Code Binary Big-endian	1 (first octet)	2
In traffic channel ID	This is the ID for the originating traffic Channel	Binary Big-endian	3 (start at third octet)	2
In protocol ID	This is the numeric representation of the protocol family for the originating side	0 = ISDN PRI 1 = C7 2 = DPNSS 3 = CAS 4 = ASN 5 = Unknown Binary Big-endian	5	1
Out Signal path ID	This is the ID for the terminating Signal Path.	C7 – Component ID for the Point Code Binary Big-endian	6	2
Out traffic channel ID	This is the ID for the terminating traffic Channel	(Binary Big-endian	8	2

Table 2-1 MGC Info Subfields (continued)

Field Name	Description	Value/Encoding Scheme	Location (Position)	Size
Out protocol ID	This is the numeric representation of the protocol family for the originating side	0 = ISDN PRI 1 = C7 2 = DPNSS 3 = CAS 4 = ASN 5 = Unknown Binary Big-endian	10	1
Call Type Flag	This indicates whether the call was a real or virtual call [used primarily in DPNSS]	0 = Real call 1 = Virtual Call Binary Big-endian	11	1
Call Feature Flag	This indicates whether the call was a normal call or a feature call (that is, call forwarding, or call waiting)	0 = Normal Call 1 = Feature Call Binary Big-endian	12	1
C-NOA Pre-translated calling number	Cisco specific: Nature of address (NOA) for pre-translated calling number. This field is used for backward compatibility.		13	1
C-NOA Pre-translated dialed number	Cisco specific: NOA for pre-translated dialed number. This field is used for backward compatibility.	(	14	1
C-NOA Post-translated calling number	Cisco specific:NOA for post-translated calling number. This field is used for backward compatibility.		15	1
C-NOA Post-translated dialed number	Cisco specific: NOA for post-translated dialed number. This field is used for backward compatibility.		16	1
C-CPC Call Type	Cisco specific: Unknown, ordinary, Priority, Emergency, Data	0 = Unknown call value 1 = Ordinary Call 2 = Priority Call 3 = Emergency Call 5 = Data Call (Priority Call & Data Call for ANSI SS7 is not supported)	17	1

Table 2-1 MGC Info Subfields (continued)

Field Name	Description	Value/Encoding Scheme	Location (Position)	Size
C-CPC Language	Cisco specific: French, English, ..etc	1 = Unknown Language 2 = English 3 = Russian 4 = French 5 = German 6 = Spanish	18	1
C-CPC User	Cisco specific: Unknown, Subscriber, Operator,…etc	0 = Unknown User 1 = Subscriber User 2 = Operator 3 = Pay phone 4 = EMERGENCY 5 = NETWORK 6 = ATT PR1 7 = ATT PR2 8 = ATT PR3 9 = ATT PR4 10 = ATT PR5 11 = CGSUB PR2 12 = CGSUB PR3 13 = CGSUB PR4 14 = CGSUB PR5 15 = SERVICE LINE 16 = DPNSS 17 = CONF DEVICE 18 = ALARM DEVICE 19 = PAYPHONE TYPE2 20 = PAYPHONE TYPE3 21 = PAYPHONE TYPE4 22 = PBX SUBSCRIBER1 23 = PBX SUBSCRIBER2 24 = PBX SUBSCRIBER3 25 = PBX SUBSCRIBER4	19	1

APPENDIX A

CDE Listings by Release

This appendix lists the valid call detail elements (CDEs) on a release-by-release basis. The valid CDEs are listed in the following sections:

CDE Baseline—Release 9.1(5) and Higher

Table A-1 lists the CDEs that are valid as of Release 9.1(5).

Table A-1 Valid CDEs for Release 9.1(5) and Higher

Tag Value	Field Name
2000	Calling Party Category
2001	User Service Information
2002	Originating Line Information
2003	Calling Number Nature of Address
2004	Charged Number Nature of Address
2005	Dialed Number Nature of Address
2006	LRN Nature of Address
2007	Called Number Nature of Address
2008	Reason Code
2009	Forward Call Indicators Received
2010	Forward Call Indicators Sent
2011	Nature of Connection Indicators Received

Table A-1 Valid CDEs for Release 9.1(5) and Higher (continued)

Tag Value	Field Name
2012	Nature of Connection Indicators Sent
2013	Transit Network Selection
2014	Carrier Identification Parameter
2015	Carrier Selection Parameter
2016	Jurisdiction Information Parameter
2017	Redirecting Number NOA
3000	Calling Party Category
3001	User Service Information
3003	Calling Number Nature of Address
3005	Dialed Number Nature of Address
3006	LRN Nature of Address
3007	Called Number Nature of Address
3008	Reason Code
3009	Forward Call Indicators Received
3010	Forward Call Indicators Sent
3011	Nature of Connection Indicators Received
3012	Nature of Connection Indicators Sent
3013	Transit Network Selection
3017	Redirecting Number NOA
4000	CDB Version
4001	CDB Timepoint
4002	Call Reference ID
4003	IAM Timepoint
4004	ACM Timepoint
4005	ANM Timepoint
4006	REL Timepoint
4007	Crash Timepoint
4008	Originating Trunk Group
4009	Originating Member
4010	Calling Number
4011	Charged Number
4012	Dialed Number
4013	LRN Number
4014	Called Number
4015	Terminating Trunk Group
4016	Terminating Member

Table A-1 Valid CDEs for Release 9.1(5) and Higher (continued)

Tag Value	Field Name
4017	Maint Trunk Group
4018	Maint Circuit Member
4019	Glare Encountered
4020	RLC Release Timepoint
4028	First Release Source
4029	LNP Dip
4030	Total Meter Pulses
4032	Maint Type
4033	Maint Reason
4034	Ingress Originating Point Code
4035	Ingress Destination Point Code
4036	Egress Originating Point Code
4037	Egress Destination Point Code
4038	Ingress Media Gateway ID
4039	Egress Media Gateway ID
4040	TCAP Transaction Identification
4041	Transaction Start Time
4042	Transaction End Time
4043	TCAP Database Identification
4044	Announcement Identification
4045	Route Selection Info
4048	Directional Flag
4049	Service Logic ID
4050	AMA Line Number
4052	Originating Gateway Primary Select
4053	Terminating Gateway Primary Select
4060	Redirecting Number
4061	Tariff Rate
4062	Scale Factor
4063	Test Line Indicator
4066	Ingress SigPath ID
4067	Ingress Span ID
4068	Ingress BearChan ID
4069	Ingress Protocol ID
4070	Egress SigPath ID
4071	Egress Span ID

Table A-1 Valid CDEs for Release 9.1(5) and Higher (continued)

Tag Value	Field Name
4072	Egress BearChan ID
4073	Egress Protocol ID
4074	Maintenance SigPath ID
4075	Maintenance Span ID
4076	Maintenance BearChan ID
4077	Maintenance Circuits Count
4100	IAM Timepoint Received_ms
4101	IAM Timepoint Sent_ms
4102	ACM Timepoint Received_ms
4103	ACM Timepoint Sent_ms
4104	ANM Timepoint Received_ms
4105	ANM Timepoint Sent_ms
4106	First REL Timepoint_ms
4107	Second REL Timepoint_ms
4108	RLC Timepoint Received_ms
4109	RLC Timepoint Sent_ms
4201	Ingress SIP URL
4202	Egress SIP URL
4203	SIP Call ID
5000	Unique Call Correlator ID
6000	MGC ID
6001	File Start Time
6002	File End Time
6003	Total Number of CDB records
6004	MGC Version
6100	TTC Contract #
6101	TTC Contract # NOA
6102	TTC Charge Info
6103	TTC Charge Info Type
6104	TTC Charge Area Info

CDE Changes in Release 9.2(2)

There are no CDE changes in Release 9.2(2).

CDE Changes in Release 9.3(1)

Table A-2 lists the CDEs that are valid as of Release 9.3(1).

Table A-2 CDE Changes in Release 9.3(1)

Tag Value	Field Name	Action
4078	Charge Band Number	Added
4079	Furnish Charging Information	Added
4080	Original Called Number	Added

CDE Changes in Release 9.3(2)

Table A-3 lists the CDEs that are valid as of Release 9.3(2).

Table A-3 CDE Changes in Release 9.3(2)

Tag Value	Field Name	Action
4034	Ingress Originating Point Code	Existed, added to the 1110 CDB
4035	Ingress Destination Point Code	Existed, added to the 1110 CDB
4036	Egress Originating Point Code	Existed, added to the 1110 CDB
4037	Egress Destination Point Code	Existed, added to the 1110 CDB
4068	Ingress BearChan ID	Existed, added to the 1110 CDB
4072	Egress BearChan ID	Existed, added to the 1110 CDB
4081	T.38 Fax Call	Added
4082	Charge Unit Number	Added

CDE Changes in Release 9.4(1)

Table A-4 lists the CDE changes for Release 9.4(1).

Table A-4 CDE Changes in Release 9.4(1)

Tag Value	Field Name	Action
1071 CDB	Circuit Audit CDB	Added
4033	Maint Reason	Retired
4046	Ingress Gateway Packet Info	Restored

Table A-4 CDE Changes in Release 9.4(1) (continued)

Tag Value	Field Name	Action
4047	Egress Gateway Packet Info	Restored
4098	Originating Leg DSP Statistics	Added
4099	Terminating Leg DSP Statistics	Added
4204	Source IP Address	Added
4205	Ingress Media Device Address	Added
4206	Egress Media Device Address	Added
4207	Initial Codec	Added
4208	Final Codec	Added
4209	Ingress Media Device Port	Added
4210	Egress Media Device Port	Added
4211	Originating VPN ID	Added
4212	Terminating VPN ID	Added
4234	Total Circuits Count	Added
4235	Total Circuits Unavailable Count	Added

CDE Changes in Release 9.5(2)

Table A-5 lists the CDE changes for Release 9.5(2).

Table A-5 CDE Changes in Release 9.5(2)

Tag Value	Field Name	Action
2018	Egress Calling Number NOA	Added in a patch
2019	Egress Redirecting Number NOA	Added in a patch
2020	Egress Original Called Number NOA	Added in a patch
3018	Egress Calling Number NOA	Added in a patch
3019	Egress Redirecting Number NOA	Added in a patch
3020	Egress Original Called Number NOA	Added in a patch
4044	Announcement Identification	Modified, added to CDB 1030
4045	Route Selection Info	Retired
4083	Egress Media Device Address	Added
4084	Initial Codec	Added
4085	Final Codec	Added
4086	Ingress Media Device Port	Added
4087	Egress Media Device Port	Added
4088	Originating VPN ID	Added
4089	Terminating VPN ID	Added

Table A-5 CDE Changes in Release 9.5(2) (continued)

Tag Value	Field Name	Action
4090	Reservation Request Accepted	Added
4091	Reservation Request Accepted	Added
4092	ATM Ingress Configured Profile	Added
4093	ATM Egress Configured Profile	Added
4094	ATM Negotiated Profile	Added
4095	Route List Name	Added
4096	Route Name	Added
4097	MGCP Script Response String	Added
4213	Meter Pulses Received	Added
4214	Meter Pulses Sent	Added
4215	Charge Tariff Info	Added
4216	Advice of Charge Indicator	Added
4217	Short Call Indicator	Added
4218	Charge Limit Exceeded	Added
4219	Call Recovered Indication	Added
4220	PARTIAL CALLING LINE IDENTITY	Added
4221	Service Activation	Added
4222	PRI AOC Invoke Type	Added
4223	PRI AOC – S Charge Information	Added
4224	PRI AOC – D Charge Information	Added
4225	PRI AOC – E Charge Information	Added
4226	PRI AOC Invoke Failure	Added
4237	Ingress Redirecting Number	Added in a patch
6005	INTERIM CDB	Added

CDE Changes in Release 9.6(1)

Table A-5 lists the CDE changes for Release 9.6(1).

Table A-6 CDE Changes in Release 9.6(1)

Tag Value	Field Name	Action
1210 CDB	Slave End-of-Call	Added
1260 CDB	Slave Long-Call	Added
4030	Total Meter Pulses	Added

Table A-6 CDE Changes in Release 9.6(1) (continued)

Tag Value	Field Name	Action
4098	Originating Leg DSP Statistics	Modified for the Support of DSP Voice Quality Statistics feature, in patch CSCOnn026.
4099	Terminating Leg DSP Statistics	Modified for the Support of DSP Voice Quality Statistics feature, in patch CSCOnn026.
4221	Service Activation	Modified, added new data values.
4227	Route Optimization/Path Replacement Action	Added
4228	Route Optimization/Path Replacment Call Reference of Associated Call Instance	Added
4229	Route Optimization/Path Replacement Trunk Group Info	Added
4230	Route Optimization/Path Replacement Channel Info	Added
4231	Route Optimization Switchover Timestamp	Added
4232	Rejecting Location Label	Added
4233	Rejecting Location Label Direction	Added

CDE Changes in Release 9.7

Table A-7 lists the CDE changes for Release 9.7.

Table A-7 CDE Changes in Release 9.7

Tag Value	Field Name	Action
4046	Ingress Packet Information	Modified for the H.248 Protocol feature.
4047	Egress Packet Information	Modified for the H.248 Protocol feature
4069	Ingress Protocol ID	Modified for the H.248 Protocol feature
4073	Egress Protocol ID	Modified for the H.248 Protocol feature
4087	Ingress MGCP DLCX Return Code	Modified for the H.248 Protocol feature
4088	Egress MGCP DLCX Reture Code	Modified for the H.248 Protocol feature

Table A-7 CDE Changes in Release 9.7

Tag Value	Field Name	Action
4097	MGCP Script Response String	Modified for the H.248 Protocol feature
4098	Originating Leg DSP Statistics	Modified for the H.248 Protocol feature
4099	Terminating Leg DSP Statistics	Modified for the H.248 Protocol feature
4201	Ingress SIP URL	Name changed to Originating Remote SIP Host.
4202	Egress SIP URL	Name changed to Originating Local SIP Host.
4236	H323 Destination	Added
4239	Service Usage Data	Added
4240	CNAM DIP	Added
4241	Calling Name	Added
4242	Terminating Remote SIP Host	Added
4243	Terminating Local SIP Host	Added
4244	License Rejecting Reason	Added
4245	License Rejecting Direction	Added
4246	SIP Transport Protocol	Added
4247	SIP Routing URI Source	Added
4248	SIP Routing URI	Added

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